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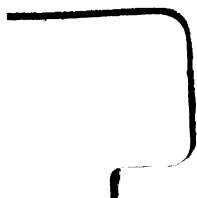
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# Interior Painting

## A Series of Practical Treatises on

**MATERIAL; TOOLS AND APPLIANCES USED;  
STENCIL CUTTING; POUNCES IN INTERIOR  
PAINTING; PAINTING WOODWORK; HOW TO  
PAINT FLAT COATS; ENAMELLING; PAINTING  
PLASTERED WALLS IN OIL; FLOOR PAINTING;  
VARNISHING AND WAXING; FINISHING FLOORS;  
PAINTING PLASTERED WALLS IN WATER  
COLORS; CALCIMINING; REPAINTING OLD  
WALLS IN WATER COLORS; DECORATING IN OIL  
OR WATER COLORS; LINING AND STENCILING;  
POUNCES AND PAINTING POUNCED WORK.**

**Each Treatise is followed with Test Questions**  
: : : for the Student : : :

**By F. MAIRE**

**Author of "Modern Painter's Cyclopedia" and  
"Exterior Painting"**

**I L L U S T R A T E D**



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# Interior Painting

## PREFACE

This, the second manual of the Red Book Series takes up the course of painting nearly where the first one ended, and much of the matter contained in the first is applicable in many instances to INTERIOR PAINTING. To save repetitions the same system of paragraphing the subject matter has been adopted and reference will be made throughout the text to such by number to save space and the needless saying the same thing over and over.

While INTERIOR PAINTING will be reviewed in all its phases, there are some parts of it which, while being portions of the painted work in interior painting of buildings which really can be and are

classed as separate trades and as each would require fully as much space in their handling as will be devoted to this manual, they will each appear under their proper heading, and each will be devoted specially to such branches as graining, marbling, wood finishing, etc. Decoration too, properly speaking is much too big a subject to be handled as a side issue in a book treating of the interior painting in a general manner and it too will be divided up into subdivisions which will facilitate its study, rendering it more thorough and easy.

F. MAIRE.



## LESSON 1

1. It seems just and right that previous to entering upon the study of any subject that in order to understand it well, one should know what its main features are and that he should have a sketch or a synopsis given him of "how it is to be treated." This is the principal object of this lesson, and the subsequent paragraphs indicate what will be more fully given in the lessons which follow it.

2. As to Interior painting it is purposed to be followed up from the foundation. This in many respects will be found similar to that which has been related in Vol. I of the red series manual—yet is not so nearly the same that the student can be referred to it for full explanations. The material used on interior work comprises all that is described under that section of Vol. I, as well as most of the tools and ap-

pliances there considered, but in addition very many others, so as many may not care to purchase it, the material as well as tools and appliances will be gone over in full, only tools, etc., which may have had a full description given in Vol I will receive but a passing notice in this manual, reserving the fuller ones for those which properly belong to interior painting.

3. The manner of preparing the walls, etc., in order to fit them for the application of paint and decorations either in oil or water colors, is an all important division of the subject, so it will receive full attention in all its details.

4. How to handle the various devices in use for getting at the surface of walls is another very important preliminary step in enabling a workman to do the interior painting in the best and quickest manner. This will also be fully described.

5. The application of calcimine and all water color paint, including the blending

of colors, will next be taken up, giving directions upon the various stages occurring—commencing at the beginning and gradually bringing up the subject to completion for the final decorative work proper and of so much of this as is possible with space at command.

6. The application of oil colors to the walls and the various manners in which this kind of interior work is usually done bringing it too through all its various stages up to finishing the walls ready to receive the decorations and of so much of the latter as can be easily done without a special study of the more artistic parts of it which will form the subject matter of another manual.

7. The painting of the woodwork in plain or parti-colors and the flattening or enameling of the same or of its preparing for graining by coating it over with the ground coats will be treated fully and separately from the wall work itself.

8. The new fad of glazing will be handled in Vol. IV, entitled graining and marbling.

## QUESTIONS ON LESSON I

1. This paragraph deals in generalities.
2. So does this and the following ones 3, 4, 5, 6, 7 and 8. The student need not memorize them, this lesson being intended to show him the division of the subject matter into sections.

## LESSON II

### THE SHOP

9. This has been described pretty thoroughly in Vol. I. But it sometimes happens that painters who do interior work and decorating do but little, if any, exterior work and again that those who do exterior work do but little other than plain interior work. In the description of the requirements of the paint shop in that manual, there was no thought given to the needs of

the decorator and while in the main all that was said there regarding its location and arrangement could be repeated here again, its location in basements must not be thought of.

10. Light and dryness should be considered first of all, as it must be used for the sketching out of designs, pounces or stencils, the trying of tints and shades where plenty of light should be had.

11. A good long table upon which to lay out drawings, etc., and upon which good direct light should fall, should be added to the equipment of every shop catering to interior decorations. Its proportions should not be stinted, for much valuable time will be saved where there is plenty of room to spread out sketches and designs in full view. The table should be no less than three feet wide and six to eight feet long. It should be either perfectly flat or with a slight slant although this is not so necessary as in drafting with math-

ematical instruments. It should be solidly fixed as a wobbling work table is an abomination and a constant source of irritation likely to render one nervous and unfit him for good work.

12. A good gas stove, or where gas is not procurable a gasoline or kerosene oil stove, or what is better and safer, an electrical heater are too often needed for interior work to be dispensed with unless the shop is so situated that access to heating conveniences can be had without too great a waste of time in getting at them in which case there would be no saving, but a loss. The stove will be needed every day for melting glue, preparing water color tints, making paste from flour or the prepared dry pastes for paper hanging and the one thousand and one uses for hot water which come up at all times and which cause a big loss of time in the procuring otherwise.

13. There should be a number of drawers in the equipment of a shop carrying on

interior painting. While but few are really needed in an ordinary shop doing exterior painting only, the decorator has use for a great deal more coloring matter in a dry form and each one should have a drawer plainly labeled with the name of the pigment they contain. These drawers will keep the dry colors clean and will prevent their being mixed up and being spilled over the floor and shelving so that the ordinary slovenly and dirty appearance of the premises which is the usual appearance of the shops using dry colors direct from the paper bags containing them, will enhance the one well equipped and clean, in the estimation of the customer at once and the price for the job will not be questioned nearly so quickly as it would be were the appearances against instead of favoring the up-to-date shop style.

14. While sinks or some suitable place to clean up pots, vessels, etc., are needed in all paint shops, the shop of the decora-

tor, no matter how good and handy everything else may be, would soon be dirty enough if pails and all other vessels used in preparing and using water colors are not cleaned up and put up in their proper places, cleaned, and kept there, as quickly as one is through with them. The same can be said of brushes used in water colors. They soon get out of shape and good working order unless well washed out after using. For the rest of the necessary equipment of the shop the student is referred to Vol. 1 or Exterior Painting. Much more could be added to it, but it is thought best not to burden the list unnecessarily as many or most of them while handy are not indispensable.

## QUESTIONS ON LESSON II

9. How should the shop be located?
10. Why should it be light?
11. What kind of table should be used to sketch upon?



12. What is said about stoves?
13. What are the best holders for dry colors?
14. What is said regarding a place to clean pots, etc.?

### LESSON III

#### MATERIAL USED IN INTERIOR PAINTING

15. The material used in interior painting and decorating embraces every pigment known and in the way of binding substances, a number possessing binding qualities which enables the mixing of pigments with water holding these binding substances in solution and their application to walls with an assurance that they will not readily come off.

For decorating walls in oil all the colors mentioned in exterior painting will be found useful and as a full description of colors or pigments will follow this manual in the Red series as Vol. III, the student is referred to that for the proper expla-

nations, as it would take up all the space which will be devoted to this manual to give them all, even a very condensed examination.

16. For the easy finding of material, the same will be divided into: pigments or colors; vehicles to spread them with; varnishes, etc.; accessory material used in connection with interior painting, but not directly used as vehicles for pigments.

17. Pigments will be grouped in seven general divisions which cover the leading and distinctly separate hues. Many come so very near the border line of other divisions that in a few instances it is necessary to be arbitrary in placing them into one rather than another, but usually there is no difficulty in giving them their proper place.

18. The former division of pigments into seven general groups as given in Vol. I will be followed, to wit: The Whites, the

Blacks, the Blues, the Browns, the Greens, the Reds, the Yellows.

19. The white pigments comprise two very distinct sections, the whites derived from the metals and the natural and artificially made whites or the white earths.

20. The principal white pigment of metallic derivation is white lead. Its great opacity or covering property enables the painter to obtain an even solid looking surface over anything he is called upon to paint. As a base for the mixing of all light tints it has no equal—at least in oil painting either flat or glossy. More will be said regarding it when the mixing of tints will be reached in this manual.

21. Zinc white, the only other white pigment of a metallic origin which is useful to painters and decorators in the mixing of tints in oil for interior work, is a very good pigment for all such work, not only when ground in oil or varnish but also

in the mixing of water colors in a dry state; but more will be said regarding its use, in the proper places when considering the several kinds of interior finishes.

22. The earth whites, which are chiefly useful as pigments in water color work, may be divided up into three classes, according to the principal component of its base. When clay predominates, they are called aluminous; when this consists chiefly of silica, they are known as silicious; and those where lime holds the preponderance, are called calcareous and cretaceous. This is a somewhat arbitrary distinction as in many instances there is a great variation in the component parts of the earth whites and the base is sometimes found to be so nearly evenly balanced in quantity that it could be placed in another class without detriment. Their general character, however, usually will be found such as will make their proper classing correct.

## QUESTIONS ON LESSON III

15. General remarks concerning material used in interior painting.

16. In how many classes can the material be divided?

17. How may pigments be grouped?

18. Name the various groups of pigments.

19. What is said regarding the white pigments?

20. What use is made of white lead?

21. What is said of zinc white?

22. How may the earth whites be classed?

## LESSON IV

## MATERIAL USED IN INTERIOR PAINTING,

## CONTINUED

23. In the preceding paragraph it will be seen that, owing to the widely different main components of the earth whites, there must be a great difference in their working qualities. All of them are better

adapted to do a certain class of work than are any of the others. Space forbids going into full details concerning all the peculiarities belonging to each, which, however, will be found by referring to Vol. III; but the main characteristics of the leading white earth pigments of each class will be given in order that the student may understand why they are used for certain purposes instead of others.

24. The earth whites are all either transparent or semi-transparent when mixed with linseed oil. They are good absorbents of it and owing to their transparency or lack of opaqueness the oil colors them, imparting its yellowness to the extent of causing these whites to lose their clean tone and muddying them so much that they are rendered useless for painting in oil in their self tone at least. They are sometimes used in the making of compounds into which white lead or zinc enter in sufficient quantities as to give the com-

bination good opacity and color and as correctives of some of the defects of these two metal whites they become of good use in such compounds. Most of them are inert in oil, but those of a calcareous nature (all but the sulphate) do exert an influence upon the oil and cause it to saponify more or less. This, however, is not always injurious.

25. The earth whites, while not being ideal pigments in oil, really become so when used in distemper or water colors. They show opaque when mixed with water and are used in enormous quantities in the make-up of the ready prepared calcimine tints and for the coloring of wall paper, to say nothing of the quantities of it used and mixed up by painters in preparing calcimine and all water color painting of whatever name it may go by. The peculiarities of the main earth whites belonging to the several divisions mentioned in para-

graph 22 will be noted in the following ones.

26. The aluminous whites are numerous. The better ones are those having been well cleaned and washed free of foreign admixtures and can be procured under the name of China Clay or Kaolin in many of the better class of supply stores. This is the best one of the aluminous division. It covers best of any in oil and is inert nearly in that vehicle. In water colors it possesses also the best body or opacity of any one of the earth whites, but its working qualities are inferior to those of others which will be noted below.

27. The silicious white earths, while not possessing any body or opacity in oil, are used as correctives in connection with the good covering metal whites to good advantage. They are seldom used alone in water color work, as they are inferior in covering and working qualities to the cretaceous whites. They are used as said above



mainly as correctives in oil painting, as adjuncts in the flatting coats done in oil of which more will be said later.

28. The cretaceous whites are by far the best to use as bases for the mixing of water colors and probably ninety-five per cent of all water color painting contains it as the principal ingredient.

Whiting or carbonate of lime is the principal one and the quantities of it that are used is something wonderful. While it is very indifferent when mixed in oil on account of its transparency, it certainly is the ideal pigment when mixed with water. It covers well and smoothly and stands head and shoulders above all the rest in good qualities in the estimation of the trade. It works admirably well under the brush, which is a great object in itself as a time saver. And if for no other reason, this would place it at the head of the list.

29. There is another very good white earth pigment of this class having entirely

different properties from the above. It is gypsum, or the sulphate of lime. It does not cover nor work as well under the brush as whiting and is never used for the mixing of water colors by the painters, but by proper compounding enormous quantities of it are used by the concerns making the so-called anti-calcimine goods, etc. Their chief good qualities are as adjuncts with other whites either in oil or water colors and as bases for the preparation of certain colored pigments.

#### QUESTIONS ON LESSON IV

23. What is said in general of the earth whites?

24. What are the main characteristics of the earth whites in oil?

25. What is said concerning their use in water color painting?

26. What are the peculiarities of the aluminous whites?

27. What is said regarding the silicious whites?

28. Relate the properties of the cretaceous whites and of whiting in particular.

29. What is said concerning gypsum or the sulphate of lime?

## LESSON V

### MATERIAL USED IN INTERIOR PAINTING

#### CONTINUED

#### THE BLACKS

30. They are nearly the same as noted in Vol. I with the addition of a few others. As all pigments will be fully reviewed in Vol. III, a mere nomenclature is here given, merely noting the ones which are chiefly used in water colors.

Lamp Black, Ivory Black, *Coach and drop blacks* are of the same kind of provenance as Ivory black, i. e., *bone charcoal*. Gas or carbon black—Graphite. The above blacks are all useful in oil and most of

them in water colors. To the above list must be added for use in water: Brunswick or Frankfort black, also sold sometimes under the name of Charcoal black, only useful in distemper work.

### THE BLUES

31. In Vol. I the list of blues is restricted to Prussian Blue and Ultramarine, which with the exception of Cobalt Blue are the only ones of much value in outdoor painting. To the above must be added for interior painting Chinese Blue, a soluble variation of Prussian Blue, Ceruleum and a few decorators might miss Chessylite, while the big majority would not use it.

With the various shades of Ultramarine to be had, even the decorators can cut down the blue list to the two mentioned in exterior painting—Prussian and Ultramarine Blues.

## THE BROWNS

32. These form a useful group to all painters for either outside or inside work, either in oil or water colors.

Raw and Burnt Umbers, Raw and Burnt Siennas, Vandyke Brown are all very transparent or semi-transparent and are useful in both oil and water color painting. The metallic browns so useful in oil for the rough painting of buildings are but little used in interior work, although some produce some very good tints and could be used in their self colors also to good advantage.

## THE GREENS

33. The greens, it will be noted in Vol. I, are restricted to the Chrome Greens which suffice for the producing of tints or self coloring in exterior work. To this must be added for interior work Cobalt green or green ultramarine, Viridian, the green oxide of Chromium, Paris green and

the many fancy shades derived from the anilines. The latter class of greens are very beautiful and but for the fugitive character of most of them would be invaluable to the decorator.

#### THE REDS

34. The reds will be found of great use for interior painting and fortunately the group possesses a number of excellent pigments, stable, enduring and in a great variety of tones and hues, all being useful either in oil or water colors. In water, the quicksilver vermilions do not give good results as they will quickly turn black when unprotected by varnish. The imitation vermilions are better for use in water colors. Venetian reds, Indian reds, Tuscan reds and the red ochres are all strong iron based colors and are useful for either self painting or the producing of tints. A large number of red lakes are produced from aniline and are more or less fugitives

except the so-called madder lakes made from alizarine which are very permanent.

### THE YELLOWS

35. The yellow group is also very rich in the great variety of tints or rather hues that they produce. The list given in exterior painting is restricted to the Ochres and the Chrome yellows. While the interior decorator uses many more, the varieties of the above two are so many that nearly every tone of yellow can be produced from some of them. Dutch pink, Indian yellow, Naples yellow, Gamboge, Baryta lemon yellow, and Gamboge compose an additional list from which to choose and select for some decorators, while many would cut them out entirely.

### QUESTIONS ON LESSON V

30. What colors are named in the black group?

31. What is said regarding the pigments in the blue group?

32. Name over the useful pigments in the brown group.

33. What are the pigments in the green group?

34. What is said of the pigments composing the red group?

35. What is said regarding the pigments of the yellow group?

## LESSON VI

### MATERIAL USED IN INTERIOR PAINTING

#### CONTINUED

#### THINNERS OR VEHICLES AND BINDING SUBSTANCES

36. The thinners used in interior painting are distinct from the only ones that are of importance in exterior painting, the fixed oil, for a fuller description of which the student is referred to Vol. III. A greater use is made of the volatile oils as



in flatting, for instance, and for water color work the thinner is as the name indicates—water. But water, while it enables the thinning and application of colors, does not bind them on and some material must be added to it that will impart to it the binding properties that are lacking.

37. Linseed oil is the best fixed oil for painting inside or outside of all these. Poppy-seed oil is used with zinc white for some specific purposes of which more will be said later.

The volatile oil mostly used is turpentine, and rightly so, as the smell of the volatile oils of petroleum extraction is much against their use in interior painting. Deodorised benzine and naphtha are sometimes substituted for it and for many purposes are just about as good.

38. The binding material chiefly used to mix with water colors is such as is soluble in water as some of the vegetable gums are, as gum arabic, an excellent binder,

but too costly and difficult to handle in the painting of large surfaces, but still used for the painting of some small work by a few decorators; gum tragacanth, which is used only for specific work and for most situations very inferior to gum arabic.

There are a number of others that are sometimes used in the binding of water colors. They are makeshifts at best and much inferior to gum arabic. Among them are flour paste, the prepared dry pastes, dextrin and starch.

40. The binding material of animal extraction is by far the most used of any. This is probably not so much because of their superior qualities as that they are so much cheaper, and gum arabic being the only one among those of vegetable origin which can make any claim of superiority over good glue and isinglass—should the demand increase greatly over what it is now—the supply could not keep up and the price would soon advance beyond the reach

of any but for the users of water colors in artistic work.

Glues and isinglass have very good binding qualities when well made. They are easily dissolved, too, being readily handled, being superior in this respect to gum arabic. The one drawback is that in hot weather colors prepared with them soon putrefy; but this can be guarded against by only mixing so much as can be used up clean during the day. With refrigerators into which vessels containing it can be placed until wanted (within a reasonable time) will keep it in good shape for several days.

41. Water and other putty for floor work, filling up cracks in floor joints and knot holes and many other so-called "crack fillers" is a rather recent addition to the list of ready prepared goods on the market. Some are so good and so much superior to any of the home-made makeshifts, and being so cheap at the same time, that they

are and eventually will displace the home prepared article.

## QUESTIONS ON LESSON VI

36. What is said in a general way concerning vehicles for interior painting?

37. What are the fixed and volatile oils which are mostly being used?

38. What binding material of vegetable origin can be used in water colors?

39. What binding material of animal extraction is chiefly used in the binding of water colors?

40. What is said of the properties of glue and isinglass?

41. What is said of water putty for the filling of cracks, joints, etc.?

## LESSON VII

### MATERIAL USED IN INTERIOR PAINTING

#### CONTINUED

42. As nearly everything that is catalogued by painters' and artists' supply

houses is used at times by some decorators and painters in "interior work," the mere enumeration of it would be quite an undertaking of itself. The more useful and those of which considerable quantities are required, will be examined only.

43. Gold and other metal leaves, such as aluminum, silver, Dutch metal, etc., which are all used for such work as comes under the name of *gilding*, i. e., for application over a size to surfaces.

All the metal leaves come packed in books between the leaves of which a single leaf of the metal is placed either loose, as is the case for most of them, or held by a loose leaf of paper as in the so-called "patent gold leaf."

44. Bronzes, metallics, flitters, brocades, etc., can all be bracketed together. They are very useful in decoration and for many kinds of work indispensable. They come in innumerable shades and qualities, some being very carefully made and excel-

lent, while others are coarse, poorly colored and tarnish quickly.

45. There are a number of other powdered substances that are not of metallic derivation, that are useful to the decorator and which he uses in a manner similar to the bronzes with and over a sizing.

Mica powdered, powdered glass flakes usually known as frosting, finely powdered pearl flakings and also the larger flakes of pearl and a great number of others which are but seldom used however. In fact, there is scarcely any substance in nature that cannot be used in its proper place in decorating interiors.

46. Drafting paper to draw designs upon, some Bristol boards to make colored sketches, some good and well sized stencil paper to cut stencils from will be required. While the first two can be gotten along without by substituting something that will take their place, the last is nearly indispensable, as it is much more difficult to

substitute anything else that will not require many times more trouble and work to take its place. .

47. Charcoal and other colored chalk crayons, while not absolutely indispensable, will be found very useful.

Gold fat oil size, bronzing liquids to be used in applying bronzes and other powdered material. The rest of the material can all be included in a large sized *et cetera* and, as said before, may consist of almost anything susceptible of beautifying the interior.

To the above ought to be added all the material required in hardwood finishing which is a part of the interior work, but as this will be made the subject matter of a separate manual and as graining and marbling will form another, the two are omitted and will be treated as separate branches of the trade which they are in fact.

## QUESTIONS ON LESSON VII

42. What is said regarding the material used in interior painting?

43. Relate what is said of gold and other metal leaves.

44. Relate what is said regarding bronzes, metallics, etc.

45. Name over some of the leading powdered substances used in decorating.

46. What is said about drafting, stencilling and other paper stock?

47. What other material is used in interior painting and decorating?

## LESSON VIII

TOOLS AND APPLIANCES USED IN INTERIOR  
PAINTING AND DECORATING

48. The tools and appliances used in interior painting, many of them, were described and illustrated in Vol. I, "Exterior Painting." Some special ones are required for interior work which are never used in exterior work or, at least, only by



decorators; such will receive fuller explanations and illustrations as far as practicable than the others, and the reader is referred to Vol. I for illustrations of most of these tools and appliances.

49. As in exterior painting, the brushes were considered of most importance in the matter of tools, so in interior work they are of prime consequence and well deserve first place in the order and task of examination.

50. A much greater variety of brushes are required in interior painting and decorating than for exterior painting, as water colors require a somewhat differently devised brush for their application than oil colors do and those used in decoration have not only different forms but in many instances they should be made from different material. The brushes which are similar to those used in exterior work, will not be illustrated when there is a corresponding illustration of the same in Vol. I. In

such instances reference will be made to them by their figure number.

For ease in understanding the subject matter, the brushes will be divided into two categories: those which are used in oil colors mainly, and which are therefore nearly the same as described in exterior painting, and those which are chiefly useful in water colors, although some of them are used in oil by decorators, but are not described in Vol. I.

51. The bristle brushes used in oil painting consist of flat wall brushes (see Vol. I, figs. 3 and 4), round and oval brushes (see Vol. I, fig. 5) round, oval and flat sash tools (see Vol. I, figs. 8 and 9), round and flat artists' fitches (see Vol. 1, fig. 21), oval varnish brushes (fig. 1), a good brush to use, not only for varnishing but for painting woodwork when well broken in. The weighted floor wax brush is not used for the application of either oil or

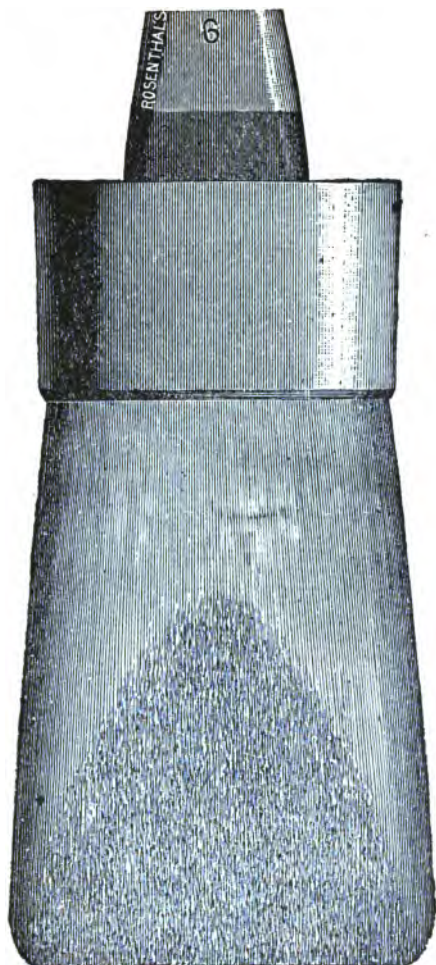


FIG. 1.

water colors but for the polishing of waxed floors (fig. 2).

The artists' flat and round bristle brushes are really as useful in oil as in water colors. They are well shown up in fig. 3.

The flat and round dusters (see Vol. I,



FIG 2.

fig. 52). The brushes which are principally useful in water colors, commencing from the larger downward to the smaller, are the calcimine brushes (see fig. 4).

To the artists' flat and round bristle brushes should be added the angular ones, shown in fig. 5.

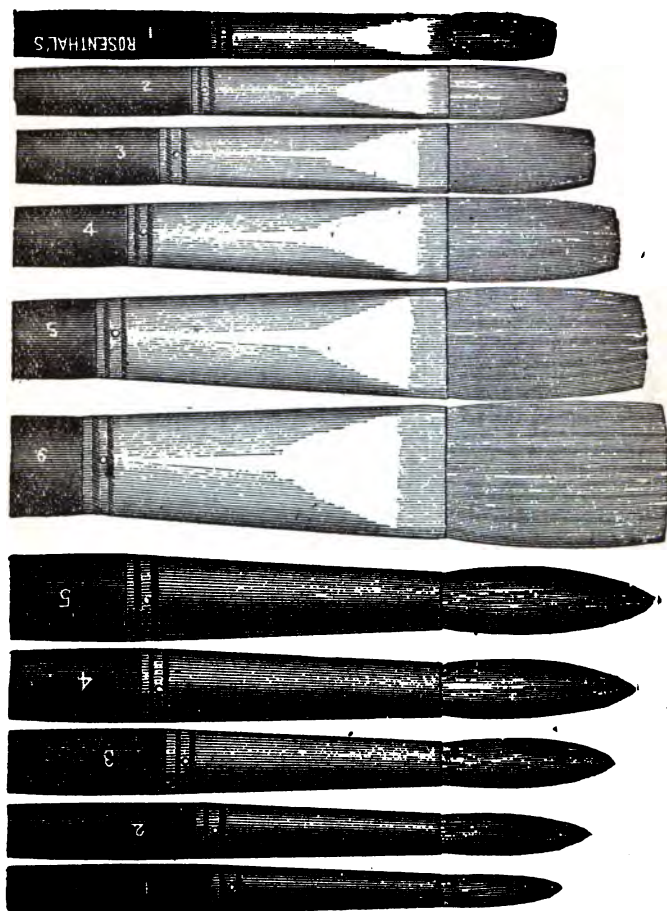


FIG. 3.



FIG. 4.

There are several other varieties of brushes built somewhat in the same fashion as the artists' bristle brushes or fitches, as

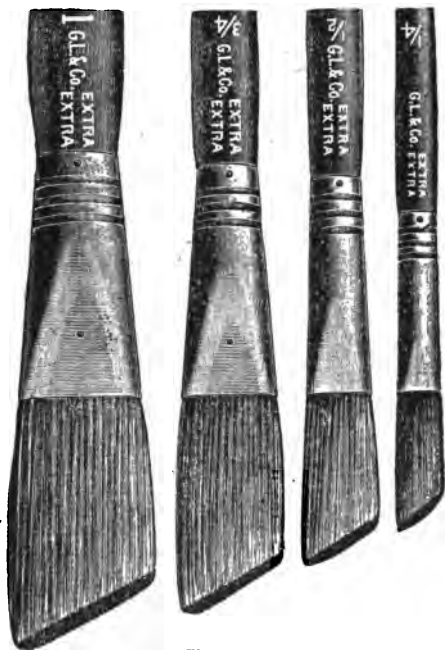


FIG. 5.

some would know them. The fresco round and flat bristle liners are of this order. They are so nearly related that the one

showing will suffice, the difference being that the fresco liner is a trifle longer.

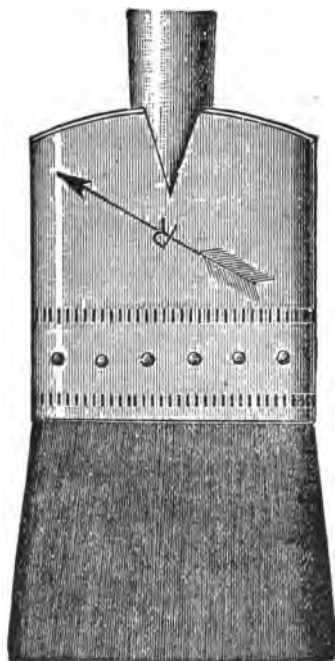


FIG. 6.

The flat bristle varnish brushes in single and double, thick, plain or chiseled edges, are so similar in shape to that of the fitch



and chiseled edged flat varnish brushes shown in figs. 6 and 7, given here, that they

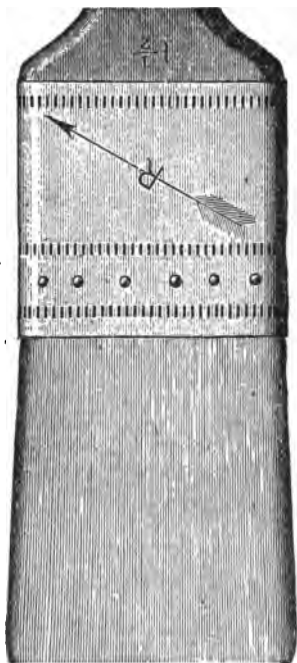


FIG. 7.

will suffice to illustrate the bristle brushes, too, as the shapes are similar in all other respects than the material composing them.

The gilder's tip for picking gold leaf out of the book or cushion and carrying it to the sized parts to be gilded is shown in fig. 8. Stencil brushes are shown in figs. 9 and 10.

Camel hair artists' brushes, red and black sable artists' brushes, round and flat

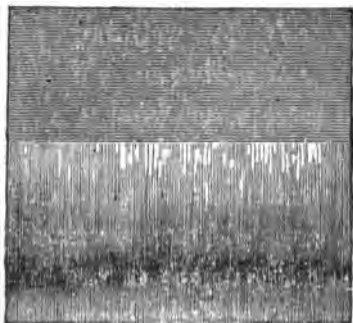


FIG. 8.

both of which are shown in fig. 11. The various lettering brushes either round or square, pointed in either camel's hair, ox hair or red or black sable, are at all times useful to the decorator. Fig. 12 shows their shapes and gradations.

Many more brushes could be given as

nearly every brush shape has some advocate for its use, but the above will suffice



FIG. 9.



FIG. 10.

for nearly all the legitimate needs of the painter and decorator.

There is another one, however, that

should not be overlooked, and while it is not used to spread paint, it is needed for



FIG. 11.

the eradication of brush marks in flatting in oil colors; in blending in water colors,

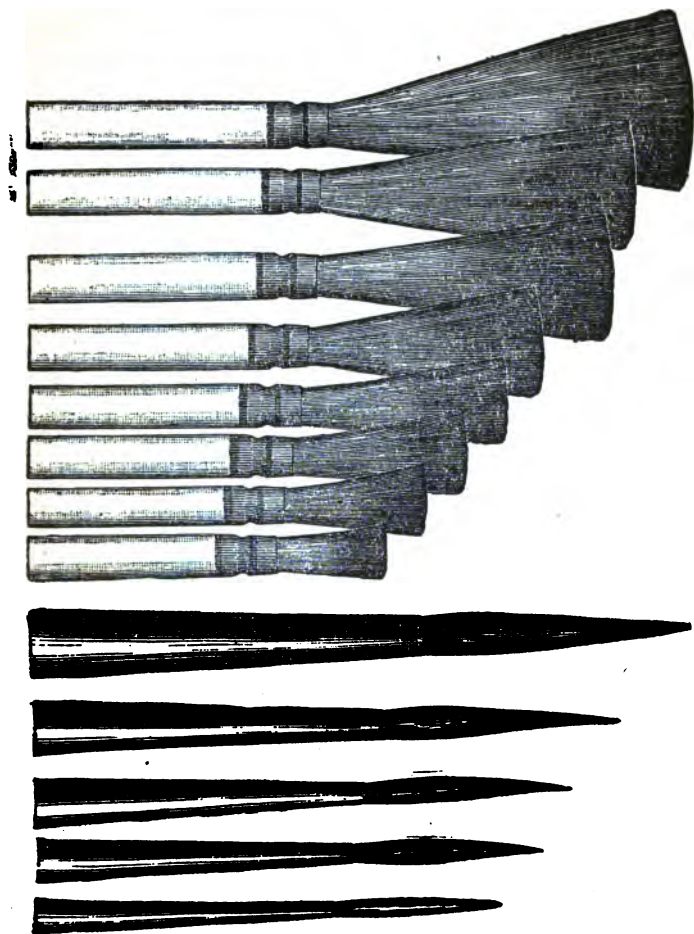


FIG. 12.

etc; it is the stippling brush, and its shape is well shown in fig. 13.



FIG. 13.

### QUESTIONS ON LESSON VIII

48. What is said generally regarding tools and appliances for use in interior painting?

49. What are the most important tools?

50. What is said in a general way concerning brushes?

51. Which are the bristle brushes principally used in interior painting?

52. What brushes are principally used in painting and decorating in water colors?

## LESSON IX

## TOOLS AND APPLIANCES—CONTINUED

53. As a rule there will be found but little use for the larger ladders in interior work, the only place where they would likely be found useful would be in the painting of large and high walled halls and churches in order to reach the working platforms. These being built within reach of the work itself requires but little explanation, as the carpenters who usually put up this sort of scaffolding know how to get at it better than it is possible to tell it in a manual of this kind.

The manner in which the painting and decorating can be reached readily and permit the easy performance of the work is the main thing to hold in sight in preparing to do interior work.

54. Step-ladders as shown in fig. 14 are needed constantly, especially such make as the figure shows. These are hinged at the

top like the ordinary ladder trestle and having well braced, broad steps can be used as an ordinary step-ladder or to lay walking boards upon as trestles, and are



FIG. 14.

perfectly safe to stand upon as there is perfect rigidity in these ladders even when working upon the top step. This cannot be always attained in other forms of step-ladders.



55. The painters' hinged trestles, as shown in fig. 15, are very much used for the building of scaffold in ordinary rooms or for holding up a two-inch walking board between a pair of them which permits the painting of a stretch the full length of the

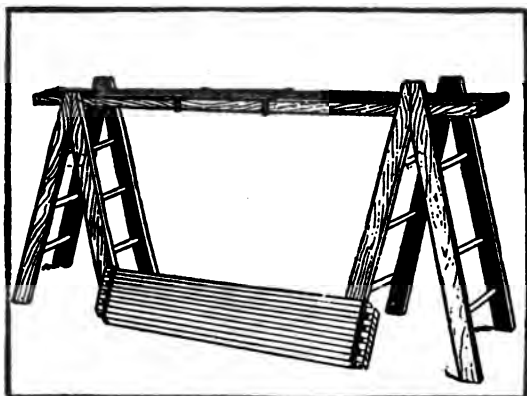


FIG. 15.

room, when the whole can be pushed along to unfinished parts and another similar stretch painted and so on until completed.

They are also used in sets of four sometimes and after laying 2-inch boards between each pair at parallel sides of a room,

other boards can be laid crossways and a complete covering can be had if desired. Where there is a considerable amount of decoration done this is the better way of getting at it, as it saves so much moving about.

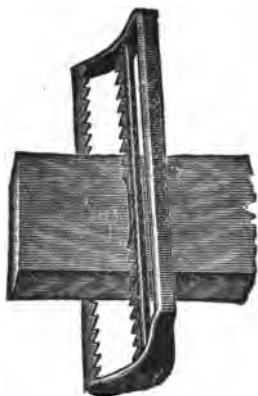


FIG. 16.

56. Sometimes in halls or in places where stairways are in the way or too narrow for the setting up of a step-ladder, some means must be resorted to to remedy this. A very good and cheap device is shown in fig. 16. The walking board can

be set upon the projecting teeth which will hold it firmly while the other end can rest upon a trestle or step-ladder.

At the foot of the trestles shown in fig. 15 will be also seen on adjustable walking board which is a very handy one as it can be used short or long, as space permits,

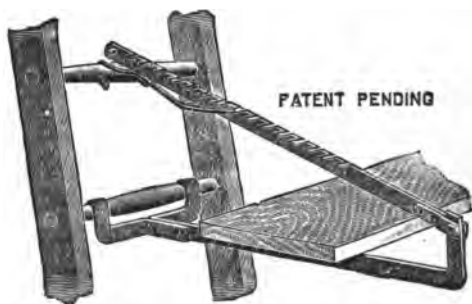


FIG. 17.

and gives in one what otherwise would require a number of different lengthed, ordinary walking boards. It is sold under the name of adjustable walking board.

57. Another very convenient device for scaffolding is the Tilley adjustable scaffolding jacks which is shown in fig. 17. Any

sized scantling can be used between them up to 2 inches and a floor laid to connect the space between two pairs, the height being adjustable, the platform can be raised or lowered to suit. They are made in three sizes.

The above will suffice to indicate what can be used in getting ready to do the interior painting of ceilings and walls and while the same object may be attained in other ways, they for that reason may not be said to be indispensable nevertheless they will be found handier and easier to handle than many others and few others will be found as good or as safe for the men to work with.

### QUESTIONS ON LESSON IX

53. What is said regarding the manner of scaffolding for high interior painting?

54. What kind of step-ladders are the most useful?

55. Relate how the painters' ladder trestles are used.

56. What is an adjustable walking board?

57. What are adjustable scaffolding jacks?

## LESSON X

### TOOLS AND APPLIANCES—CONTINUED

58. The tools needed in doing the painting and for the preparing its possibility, by scaffolding and by means of step-ladders, was the subject of the last lesson. There are still others which are needed to be used in preparing for the ornamentation, such as for the preparing of pounces, stencils, etc., etc. The most useful and indispensable ones will form the subject matter of this lesson.

59. The straight edge is used not only in drawing and drafting but also in making lines in oil and water colors, and can-

not be dispensed with. In choosing them one should be careful that they are truly straight, which can easily be seen by sighting along the edge. One edge should be bevelled.

60. The T square is another tool used in drafting and drawing. It cannot be dis-

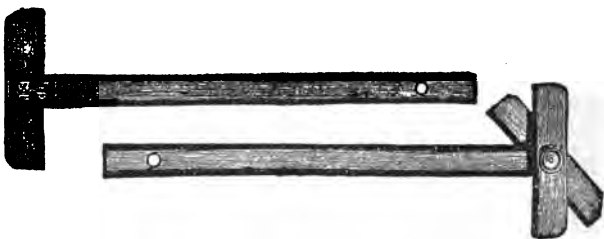


FIG. 18.

pensed with as all work which, to look well in the making of stencils, must be truly squared to register well and it would be impossible to do that without its use. See fig. 18.

61. The triangle or fourth part of a circle is another tool which, while not absolutely necessary, proves a great time saver.

Fig. 19 represents it. It is needless to say that this, as well as the T square and straight edge, are all made from wood.

62. Woodenleg dividers are also useful adjuncts to the drawing table, although it can be better dispensed with for such drawings as the decorator has to do than any of the other tools mentioned before.

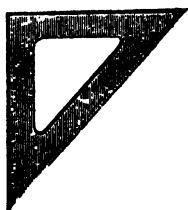


FIG. 19.

Many supply its place with a string and tack, however, but it is a convenience and in enlarging certain drawings which must be done to scale, it will be greatly missed.

63. A box of mathematical instruments does not come amiss in making drawings to scale, although but few decorators would have much use for it.

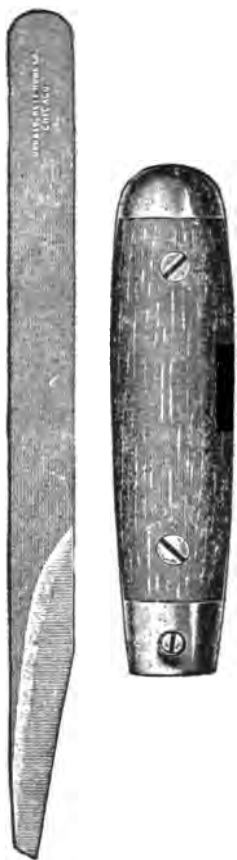


Fig. 20.

64. A stencil cutting knife such as shown in fig. 20 is needed for cutting sten-



cils. There are many other forms of it made and for sale at the supply stores. This one is excellent for general stencil cutting. It can be extended in and out to suit most purposes.

65. A good side drawing board to tack paper upon in making designs, while not a necessity, is a great convenience to have. A supply of different sizes of thumb tacks to hold the paper in place on the board and which are used also in fastening stencils to ceilings or walls while coloring the plumb bob to true perpendicular lines is a too well known device to need illustrating, but there is one made and patented which is a dandy, as it is a chalk line and bob at one and the same time and a great time saver. It is represented in fig. 21. The inside is hollow, containing coloring matter for the line when it can be snapped as soon as plumbed, one end being fastened to a sharp awl which can be pushed into the plaster without damage to it.

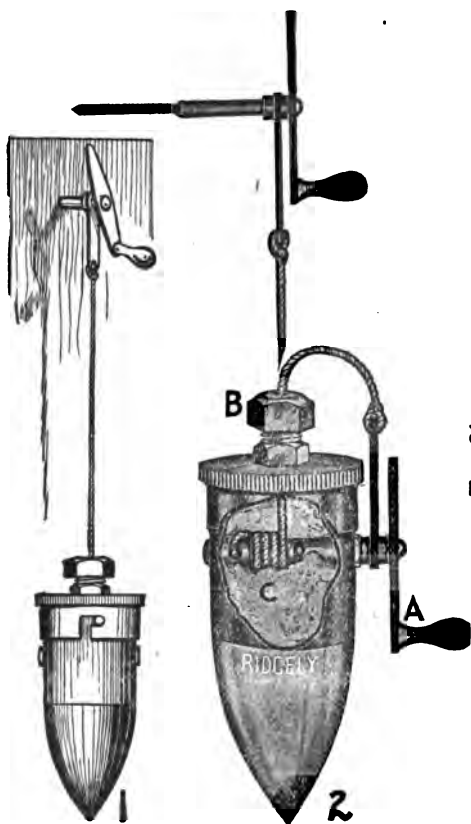


Fig. 21.

66. Putty and scraping knife were illustrated in Vol. I and the reader referred to that. Palette knives to triturate colors

are useful but not indispensable. All tools and contrivances could be included in the list of useful articles to have on hand for certain kinds of work; but of those which have been named many decorators will be found who have never owned them all—they make out by substituting something that answers the same purpose to them.

### QUESTIONS ON LESSON X

58. What other tools are reviewed in this lesson?

59. What is said regarding the straight edge?

60. What use is made of the T square?

61. What is said of triangles?

62. Relate about dividers?

63. Are mathematical instruments much used?

64. What is said about stencil knives?

65. What can you say about the drawing board and other things mentioned?

66. What other tools are needed.

## LESSON XI

## STENCIL CUTTING

67. It is not intended to go very deeply into the study of decoration in this manual, but to treat it in its preliminary stage leaving its many sided branches for some special study in subsequent manuals which will treat them specially and at greater length. The proper consideration of drawing, preparing and cutting stencils in itself is certainly subject matter enough to fill up the whole of this manual; so as said before, the first steps is all that there will be room for here. It will be well to say, however, that there is no reason why the student should not by practicing what he can learn from the little that is given out, to become an excellent stencil producer and cutter. Practice makes perfect and the first step is the hardest.

68. The first requisite is to have some good manila wrapping paper, or better still

some manila drafting paper upon which to draw the design which is intended to be cut out. The first step is to square up a base line which is easily done by using the T square. Then find the exact center of the design and square that with the base line by the same process. Then proceed to draw *one half only* of the design intended to be cut out. It is best to draw it first with a charcoal crayon, then with a pencil, correct all lines to what they should be, wiping off the charcoal marks entirely so as not to be misled in the next operation by mistaking them for the true ones to follow.

69. The next step is to prick holes in the half design made. This can be done with a needle or any other sharp pointed thing. In order that the needle may penetrate easily it will be well to lay the design upon cloth which has been folded sufficiently to make a cushion for the design.

Better still than the needle, is a good tracing wheel; some are made especially

for this purpose and so constructed as to enable one to follow curves as readily as straight lines and to make complete revolutions in circling inside of one half inch.

70. Now square up a space upon the stencil paper similar to the one described in paragraph 68, using pencil for marking out the base line, center and ends. Make a pounce bag out of any thin muslin. This is readily made by cutting a small square of cloth, in the center of which put some finely powdered dry paint of whiting or any other color which you think will show best upon the paper you intend to cut the stencil upon, tie the muslin up above the bag like ball produced by the bulk of the dry color inside. The rest of the cloth above the tying making a sort of handle to hold in pouncing the design; which should be carefully gone over in order to be sure that every portion of it will show well on the stencil paper below. It is almost useless to tell that the center of the design must be

placed exactly upon the center line drawn out upon the stencil paper and that the base must be in perfect line also with each other, otherwise the design will be imperfect from being untrue.

Then turn the pricked design over and proceed to pounce it on the reverse side. This will give the other half of the design in perfect uniformity with the first half giving a perfect replica to the first part.

71. There is another way of obtaining the same results which is employed by many. The design is drawn upon the paper in a manner similar to that stated in paragraph 70. Then instead of pricking it to make a pounce of it, it is reversed and the design is traced with a pencil on the back which is easily done if it is placed against a window pane, the light shining through will show every line on the other side which can then be easily followed and traced with the pencil. This will give the two sides needed to make the design com-

plete. Then proceed to copy it by placing a sheet of carbon paper between it and the stencil paper to receive it, having first squared and prepared it in the same manner as related in paragraph 70—then trace out the design with any pointed thing. The carbon paper will give a good clearly defined design. After having gone over the first half of the design, turn it over and proceed to trace out the other side which the carbon paper will faithfully reproduce also, and there will be a clearly marked out whole—ready to be cut out. This gives clearer markings than a pounce ordinarily does, especially when not well made or the wrong color is used in pouncing.

### QUESTIONS ON LESSON XI

67. Deals in generalities concerning stencil cutting.

68. How are designs to be drawn out upon the drafting paper?

69. How is the design to be pricked?



70. How is the design pounced on to the stencil paper?

71. In what other manner can the design be transferred to the stencil paper?

## LESSON XII

### STENCIL CUTTING—CONTINUED

72. In the preceding lesson the manner of getting the design upon the stencil ready for the cutting was explained, this lesson will try to show how to do the cutting properly.

73. There are several makes of highly sized paper which is sold as stencil paper. Some is excellent and again some is far from being so. The requisites for a good paper are that it should be pliable and tough, ability to resist moisture and the possibility of making clean cut edges easily upon it, but perhaps the greatest claim that can be made for it is that of toughness, i. e., in that it will not be likely to break where the ties are made.

74. The ability to resist moisture can be supplied very easily. It is to give the finished cut stencil one or two coats of shellac varnish. The orange shellac is better than the white for this purpose, as it is stronger and much less likely to soak up than the other after repeated use in water color stencilling. It is much safer to give the stencils this shellac varnish coating over twice, even upon the very best of ready prepared, highly sized stencil paper.

75. So far only the ready prepared stencil papers have been noticed. Many decorators prefer to prepare their own, however, and such are in no wise inferior, on the contrary they are better when well prepared.

There are a number of ways of doing this; about as good as any of them is to take some strong tough manila drafting paper. Soak it with raw linseed oil and let it dry well, then repeat the dose and let that dry again. The surplus oil should be

carefully wiped off or it will be gummy and skinny on its surface. Stencils cut upon it will after having been shellacked stand as much or more than those made on ready prepared paper.

76. The first thing to do before proceeding to the cutting proper is to *mark out the ties*. A tie in stencil cutting vernacular is the name given a small strip of uncut paper as it helps to hold the design together and these should all be carefully marked out upon the design beforehand. This marking out should be done in ink, in order that no mistake can be made and an incision made beyond the pencil lines as that would weaken the ties. Their proper location generally speaking is dictated by the needs of strengthening the design, but their proper location has a great deal to do in the producing of good effects and it requires some little experience in locating them at the right place.

77. The cutting of stencils requires

sharp knives and care. The shape of the knives helps the cutter making the cuttings more easily, but any pen knife well sharpened will answer the purpose nearly as well. The one shown in fig. 20 has a heavy handle which enables one to have a better grip and control over it than with the usual penknife and the tapering form of the blade with a strong back permit the cutting to be done somewhat more easily, but as said before, such are not indispensable.

The cutting should be done over glass or a zinc sheet—the stencil paper having been placed over them, let the cutter proceed to do his work carefully so as not to trespass with his knife beyond the ink marks indicating the location of the ties. It is better to start the cutting of a member at the upper and lower tie cutting away from the tie itself and cutting between the ties on the longer lines after that; that will reduce the hazard of cutting over to the minimum.

Small circles are best cut with round

punches, such as harness makers use in punching leather with. They are great time savers and can be procured in all sizes up to  $\frac{3}{4}$  of an inch or more.  $\frac{3}{4}$  in. are as large as will be required as above that size the knife will do the work about as well.

Immediately after the stencils have been cut, the shellacking mentioned in paragraph 74 should be given them in order that they may be ready for use at a moment's notice.

## QUESTIONS ON LESSON XII

72. Tell of the subject matter of this lesson?

73. What is said of the ready prepared stencil paper?

74. How are stencil prepared to stand water color work.

75. How is other prepared for stencil cutting?

76. What is said regarding the proper placing of the ties?

77. Relate how the stencil cutting should be done and the stencils made ready for use?

## LESSON XIII

### POUNCES IN INTERIOR DECORATION

78. In the preceding lesson the manner of preparing pounces for stencil cutting was incidentally mentioned as it was necessary to do so in order to pave the way to the preparing for the stencil cutting—but all was not said concerning them nor the making of them for the reason that pounces play an important part in decoration and this was reserved for this lesson.

79. The repetition of conventional designs, or the repetition of designs that are not conventionalized also must be done and can be done only through the use of pounces in a practical manner. By their use an exact repeat can be produced at a minimum of labor.

80. Unlike stencilling on the designs,

the whole of the outlines is hand work where pouncing has been used to lay out the design. The coloring itself being a matter of taste and the number of colors used unlimited. Here is where the skill and taste of the artist comes in for the lack of it will mar the job and make it daubby while when properly done it will be sightly and pleasing to the eye. There is no royal road by which the beginner can jump in and reach success in it but by practice and perseverance in trying to do the execution in a workmanlike manner.

81. The beginner should choose some modest designs in frieze work and the same in bordering, centerpieces, corners and brakes, using but few colors to start with until his experience in these easier exercises render him more confident and able to proceed into more intricate and difficult designing.

82. Preparing the designs for pounce work is very much the same as indicated

for the designing of stencils if the repeats are short especially; but it frequently happens that they are not doubled up at the center to form the replica of the other half of it—nor are they always so even in stenciling. In either case, however, the design must be drawn in full upon the paper until the repeat begins again.

83. The designing as noted in paragraph 68 will apply as already stated. In designing the whole of the repeat, proceed to lay a perfectly well squared base line and perpendicular with it—the end lines where the design begins and ends. With a stick of charcoal the design which is to occupy the space should be laid out roughly; this should be corrected until it suits, then the same should be penciled and the charcoal marks removed by crushing and wiping off.

84. The drawing having been completed it should be pricked as recommended in paragraph 69. It may be well to say



here that sometimes the holes clog up from the paper which is raised on the underside being drawn back to the places they were punched out of. It is very easy to prevent that by simply using some O sand paper lightly on the under side, taking care that it does not cut through too much. The object being to just cut down the raised portion on that side which will leave the holes open and unclogged to perform the work intended they should do.

### QUESTIONS ON LESSON XIII

78. What is said in a general way concerning pounces?

79. How are repeats of any design uniformly reproduced?

80. What is said concerning the use of pounces in interior work?

81. What advice is given beginners in making a selection of pouncing designs?

82. How are the designs to be drawn for pounces?

83. What is further said concerning the designing?

84. How are designs to be pricked and the openings cleared?

## LESSON XIV

### PAINTING OF THE WOODWORK

85. The painting of the woodwork comes first for consideration. Much of what has been said concerning the painting of exteriors in Vol. I, will apply to the painting of wood in the interior as well. At least cheap work will be usually finished in the same way as the exterior is. But as the interior wood work is not exposed to the vicissitudes of stormy weather nor to the great changes in temperature which prevail upon the exterior, a much greater range of work can be done in interior painting than is possible on the exterior.

86. If the finish is in hard wood, it will not be painted at all, of course, and it may be finished in a number of ways as will be

seen in the volume of the red series treating especially upon wood finishing.

87. It may be coated over and painted with ground coats for graining, as will be fully explained in the volume of the red series treating the subject of graining and marbling.

88. Again it may be painted flat, an operation which will receive due attention in this manual at its proper place—where will be given the best manner and principles for its execution, not only for wood work, but for all oil painted wall work as well.

89. Or again it may be enameled which will also be fully explained further on in this manual. As it pertains nearly exclusively to the wood work proper or parts of the walls in bath rooms it will be handled in connection with the painting of the wood work.

90. In all new work the priming should be applied with raw linseed oil, only

mixed with a sufficient quantity of white lead to show where the application has been made, but not nearly so thick as to hide the grain of the wood underneath. Before the application of the priming coat every part of the wood work should have been carefully dusted and the floors cleaned as much as possible in order that no dust may arise to settle on the priming. Before the application of the priming all knots and sappy parts of the wood should be gone over with a good coat of orange shellac varnish, in order to keep them from coming through on the subsequent painting.

91. The second coat should be mixed very much as for exterior painting—middling thick and it should cover solidly over the priming. It may contain a generous quantity of turpentine if the last coat is to be given glossy, as a gloss coat always looks best over a flat coat; while if the last coat is to be flat then but very little turpen-

tine should be used in order to have it dry glossy as flatting looks best over a gloss coat. As no doubt there will be nail holes, possibly cracks and defects to fill and level up after the priming has become dried, all such should be well puttied up before the application of the second coat. Should dust have blown upon the priming before it was dry the work should be gone over with No. 1 sand paper and afterward well dusted before applying the second coat.

92. The third coating described in this paragraph presupposes that the finish is to be glossy as in outside work. If it is to be flatted it will have to be given in the manner related in lesson 15.

The paint for this coat should be heavy but it should not be plastered upon the surface on the contrary it should be well rubbed out with the brush and on no part of the work should the paint be left thick as it is sure to dry wrinkled if it is.

## QUESTIONS ON LESSON XIV

85. What is said concerning the painting of the wood work inside?

86. What is said about the hard wood finish?

87. What is said about the graining?

88. What is said about the flatting?

89. What is said about the enamelling?

90. How should the priming be applied?

91. What should be done in second coating?

92. How should the third coat be given?

## LESSON XV

## HOW TO PAINT FLAT COATS

93. Flatting is a mode of finishing surfaces which are painted in oil in order to kill the glare which is always present upon varnished or glossy surfaces. This may be executed upon all kinds of surfaces—not only upon wood work, but also upon walls

and ceilings or plastered work. As the lessons have not reached this part of interior painting as yet it is mentioned because the details here given will not be repeated where that part of interior work is reached, but the student will be referred to this lesson for the details of the "modus operandi."

94. Flatting for good work requires three coats of previous painting and it becomes the fourth one. It sometimes happens that the specifications require that the flatting be done in three coats and that it shall be applied over the second one. While it is possible to do this in a way—it is far from being the best way, and will not be so uniform in appearance as if given upon a good solid gloss coat and such a coat is not always obtained on the second coat in the painting of new wood. The priming penetrates and fills the wood, but not completely, and there is still considerable suction left afterward so that the sec-

ond coat is called upon to finish this incomplete filling. In doing so it parts with a portion of its oil, especially upon soft parts of wood. The hard parts will not absorb much if any, of this oil, and upon such the second coat will stand out with a full gloss while it will flat more or less upon the others. The surface of the wood therefore will be uneven, and the third coat flatting will be uneven too. It is much safer to insure good work to give the third coat of oil-paint, as this will be uniformly glossy which will insure a good all-over-alike flat coat over it.

95. What is said in the preceding paragraph as to flatting over wood work, is fully applicable to all plastered work in so far as it should be applied only to a uniform gloss coat. The method of painting the walls will be considered in subsequent lessons, so the student will have to wait till that is reached in order to know how it should be done; but the principles involved



are the same. It matters not by what system the walls may be painted nor of the number of coats used—but the last one must have a *uniform gloss* to apply the flatting upon.

96. The mixing of the flat coat is a particular piece of work, but presents no difficulty when the principles governing flatting are understood. These have been explained in so far as to the condition required to insure a good flat upon a *gloss coat*. There remains to explain now that the flat condition of paint is obtained by thinning the pigment with volatile oils—such as turpentine, benzine, naphtha, etc., the first named being by far the best—for the nostrils and stomach at least. It had possibly been better to have said that turpentine is not quite so bad as the others, which would have been nearer the truth, for it too is bad enough, especially in warm weather, as will be explained later on.

97. It may be well to say here that

there are several degrees of flatting known to painters. The "*dead flat*" which gives nearly as flat a tone as water colors. This is produced by thinning the pigment with volatile oils only. What is known as "*drawn flatting*" goes even farther than that, for the lead which in its paste form is ground in oil is mixed with benzine over night in order that it may dissolve the oil which was used in grinding the lead, and this is poured out after the white lead has settled down. Then it is mixed with clear turpentine as in dead flat.

Of course such work must be very short lived, and easily damaged, as there is nothing to hold the pigment on the walls or woodwork, but some people must have it done in that way and one must know how to do it.

98. Much the better way is to add a few spoonfuls of linseed oil in order to have something to hold it on the work. It will not be dead flat but will become what

painters call "*eggshell gloss*" which is a very pleasing condition to the eye. It has a peculiar softness which pleases. It possesses the advantage over a dead flat that a soft sponge can be used over it to cleanse it with but little danger if done with care, which cannot be done over the dead flat safely.

99. Some painters use silicate earth finely ground to mix with their paint in flatting. Some use as much as one-third by weight as they use of white lead. It is claimed that more oil can be used by its addition to the lead and that the flatting is softer toned. This from the tests made by the author is true, but he has not done so much of it as to warrant the claim that more oil can be added than without its use without producing a gloss. It certainly does not cover so well as the pure lead mixed flatting does—but it is more economical and having a peculiar softness of its own, is well worth using for many situations.

100. The application of the flat coat on wood work is only noted here—that of coating the walls will be explained later on. The tools should be clean, the brushes free from specs. They should be well broken in, but not worn out. The painting must be done quickly as it sets rapidly. The operator should do the panels of doors first, then the middle stiles, being careful not to have the brush run over the edge of the cross rails. If accidentally smeared over, this paint should be wiped off, as otherwise it would set and when ready to paint the rails there would be a doubling up over such places and the finished work would be imperfect. After painting over the middle stiles, proceed to paint the cross rails, then the end stiles, being careful all along not to put paint outside of the particular parts being painted.

## QUESTIONS ON LESSON XV

93. Is flatting done on wood work only?

94. How many coats of paint should be given to new wood work to flat upon and why so?

95. How should the flatting be applied to plastered work?

96. What causes the flatting of paint?

97. How is the paint mixed for dead flat, and drawn flat.

98. What is an egg shell gloss?

99. What effect have silicate earths upon flatting?

100. How should the flatting be applied upon wood work.

## LESSON XVI

## ENAMELLING

101. Under the above name a class of work is done which is just the opposite of that explained in the previous lesson. It

is not used to nearly the same extent as flatting and on account of its glare is usually confined to the painting of wood work, being very seldom applied to plastered walls and never outside of bath rooms and dadoes of stairways and halls.

102. When enamelling is done upon new wood it requires seven coats or the going over work seven times with various coatings in order to do a good first-class job of enamelling. It is possible, of course, to cut this down two or even three coats, and to do what some may call a job of enamelling—but it is not the best. As it is necessary at some time or other to do such work after the best way shall have been described, the others that are not so good will be noticed in order that the student may know how to do it when it is forced upon him.

103. In order to do a good job of enamelling on new wood, no pains should be spared to have it in good condition, by see-

ing to it that it has been well sand papered and if it has not, to do it carefully in order to cut down all the irregularities of machine planing, etc. This should be attended to before the priming. Enamelling is usually done in white or else in very light tints and before the enamelling proper begins a solid coating of white ground must have been obtained. This usually requires four coats when done mostly with French zinc white but it can be done in three coats if white lead is used instead, as it is so much more opaque than zinc. The great risk of white lead turning yellow, however, and of showing through the semi-transparent finishing coats of zinc and muddying its spotless whiteness, unfits it for the best work, except for the first two coats.

104. The wood work having been prepared as directed in the preceding paragraph it should now be primed with white lead, thinned with raw linseed oil. Unless the weather is very cold no turpentine need

be used although a small quantity of it would not hurt it. Ample time should be given it to dry well, not less than one week, as it will have to be the support of all the rest of the painting. Then sand paper it well after having puttied up all nail holes, cracks and other defects. Should any part be marred by having been sunk into holes, deep hammer marks, etc., it should be leveled up with lead putty, put on rather thin and smoothed up with the scraping knife.

105. It is then ready to be second coated with another lead coat, but thicker than is given in the priming. This coat should be thinned with half linseed oil and half turpentine. It should be well rubbed out in order to dry free of fatty places, as this will greatly mar the finish. When possible a week should be given it to dry hard. It will then be ready to sand paper and dust off for the next coat. Should any part have been overlooked in the puttying over



the priming, now is the time to remedy it by doing it over the second coat.

106. This coat should be mixed middling thick, but not quite so thick as it is usual to do in exterior painting. It should cover solidly and give a well filled and opaque surface. The thinning should be one-fourth linseed oil and three-fourths turpentine. It should be well brushed out also in order to avoid fatty edges and uneven covering. Give it three or better, four days for good drying, when it will be ready for sand papering and dusting.

107. The fourth and last of the lead coats strictly speaking is a half and half coat. Half white lead and half zinc white to give the job its solidity. It should be put on thick and rubbed out thin; but little linseed oil should be used in it, just enough for a binder, the rest being turpentine. Some painters use coach japan with a very little oil, thinning with turpentine. If the

color is well rubbed out it will be in shape for the finishing coats.

## QUESTIONS ON LESSON XVI

101. What parts of the interior work are sometimes enamelled?

102. How many coats are required to do the best sort of enamelling?

103. How should new work be prepared for the enamelling?

104. How are the lead coats to be mixed and applied. The priming coat?

105. How is the second coat to be mixed and applied?

106. How should the third coat be mixed and applied?

107. How is the fourth coat mixed and applied?

## LESSON XVII

### ENAMELLING—CONTINUED

108. The fifth coat and the next have an important function to perform in that they

will interpose their semi-transparent but unchangeable character to the solid white base under them. They act as a glaze coat too. The effect being very similar to that seen in white chinaware. The solid under coat can in a manner be seen through the medium of these two semi-transparent additions producing effects that it would be impossible to obtain in any other way.

109. The fifth coat should be mixed from the best green seal French zinc ground in poppy seed oil and thinned with turpentine mainly—use no linseed oil as it has a tendency to darken when not fully exposed to light. Some if the so-called white copal varnish may be added but in small quantity, just enough to bind it as it is best that it should not dry too glossy, but nearly flat. It should be applied with care and well laid off with a soft brush in order to avoid brush marks as much as possible. It should be allowed two or three

days to harden well, then sand papered slightly with O sand paper in order to receive the next coat.

110. The sixth coat is to be mixed from green seal zinc, ground in Damar varnish and should also be thinned with that same varnish with sufficient turpentine to give it a deadened appearance when dry, and in order also to kill the gloss it would have otherwise. It will put on the finishing touch to the coloring and perfection of the work. It is needless to repeat that the same care should be used in its application as was stated in paragraph 109 for the previous coat.

111. The last coat should consist of Damar varnish of the proper consistency for application. As it would give it a very slight cast of a yellowish hue, it will be better to mix just enough of the zinc white in it to correct this defect. It should be applied full, but not to the extent of having it sag or run. Soft camel hair var-

nish brushes are good tools to put it on with.

112. This seven coat work as stated is for the best *white* finish. What has been said applies to white only. If the tints are to be ever so slightly off the white as an ivory white for instance, one coat can be taken out of the seven named for white work. The fourth coat can be omitted, but the rest is to be given in the same manner, excepting that instead of Damar varnish being used some good light copal gum varnish should be used in its place as then it will be much harder and will stand any amount of reasonable washing and cleaning.

113. It was promised that the cheaper and easier ways of enamelling would be examined after the relation of the best way, so to redeem the promise the following method is given.

The ground work should be applied in the same manner as related in the previous

lesson up to the third coat. If it has been well done it will have a fairly solid appearance. See paragraphs 113 to 115.

114. All paint manufacturers make enamel whites and other colored enamels. Some are very good and as a rule, unless in large shops or where the enamelling on a job is on a big scale, it will be found as economical and certainly a great time saver to procure it ready to apply. Usually two coats of such prepared enamels are given over the three foundation coats previously mentioned. The finish looks fairly well, but it will certainly be inferior to that of seven coat work at least in depth.

115. All that has been said so far applies to new wood. It often happens, however, that property owners desire to have the same applied in rooms which have been painted over before. If the paint is in fair shape and has not been coated over too often, the priming coat being omitted, the ground coats can be completed for the

enamelling, by the application of two coats of paint. The same care being used in leveling up and sand papering between coats as was related before when it is finished in the manner described above, for either first-class work or the next best. If the painting has been overdone, it would be dangerous to apply four to six more coats on top of it, and in such a case the only assurance of safety lies in the taking of it off by either burning or the use of the patent paint removers.

### QUESTIONS ON LESSON XVII

108. What is mentioned about the function of the fifth and sixth coats?

109. How should the fifth coat be mixed and applied?

110. What is said about the mixing of the sixth coat and its application?

111. How should the Damar varnish coat be prepared and applied?

112. What is said about other light tinted enamelling?

113. How is the ground coats to be prepared and put on in the cheaper method of enamelling?

114. In what way is this cheaper system of enamelling done?

115. How is the enamel done over other than new work?

## LESSON XVIII

### PAINTING PLASTERED WALLS IN OIL

116. Painting the walls and ceilings in interior work is a very important part of the work, whether they are to be left in plain color or afterwards decorated. In either case the processes of preparing walls and material are the same so that when the plain work is finished it will be ready to be decorated, if desired. As in nearly all other branches of painting there is a *best way* of doing the work, and a number of



other methods which are more or less faulty and liable to cause trouble later. As some are fairly good and make quite a reduction in the cost, they will be noticed as well as the *best way* in subsequent paragraphs.

117. Plastered walls are much more porous and absorbing than wood, and require four coats of paint in order to fill them properly, so as to present a good solid uniform finish. Some walls will be found even after four coats of paint checkered all over with what painters call *fire cracks*, when this is the case, it will usually take two more coats to kill them to a certainty.

118. *Fire cracks* are seam-like runs upon the walls which run in all directions in zig-zag lines and which look flat when the rest of the painting will show a gloss. Even in flatting they will show so much more flatter than the other work, as to be plainly noticed as defects. They

seem insatiable in absorbing linseed and other thinners used in paint. No inside painting is entirely free of these fire cracks which are so fine as to be unnoticeable upon unpainted walls, nor do they appear really as cracks having an opening even after painting, but as streaks where the paint has sunk in. There are several theories as to the cause of these cracks, to examine which would take up too much of our space. It is enough for the present to know of their existence and their presence will account for much of what otherwise would appear as unnecessary work, which is done in order to overcome them.

119. In doing the *best work* it was stated in the previous paragraph that four coats were necessary in order to make a uniform job of wall painting on plastered walls; but for the "fire cracks" three coats would usually suffice, the extra one being necessary to fill up those insatiable sponge-like wall defects, even then one is

not always sure that the four coats will do so and a proviso was inserted saying that where they did not do so it would require two more, this will be explained further on. In most walls the four coats will be found sufficient, however.

In what this manual is called "*best work*" there is no preparation put upon the walls in order to kill the suction of the walls and that of the fire cracks. In this system this is all stopped by the action of the linseed oil of the paint. The fire cracks are filled until they cannot absorb any more. The other method obviates the application of so many coats of paint, by stopping this suction and absorption right in the start by a preparatory application of a strong glue size coat. But it frequently happens that plaster absorbs moisture from behind or that water pipes burst on the upper floors or a bucket of water is spilled upon them, when the water will find its way to the ceilings at least. The wa-

ter will swell the glue size and then it will crack and scale off with the paint on top of it. Glue even without the water will decay in time and crumble or scale off; so that there is no assurance of permanency in such work; but in best work, no such happenings would affect it as the paint is firmly anchored into the pores of the plaster itself, and it will stay on till that comes off. This is why it is called the best way. It is admitted that it costs more, but in the end it may be the cheapest, by far as will be seen later.

120. The first step in the painting is the repairing of the walls, should any of them be defective. Usually new work is in good shape, but in old work cracks from the settling down of buildings, frequently occur and holes or other defects in the plaster work must be filled up and leveled. Plaster of paris mixed with glue water to keep it from setting so rapidly is the best to use as the glue helps not only in giving more

time for working it, but also as a size in order to prevent the paint showing the sinking of the color in the crack. A scraping or in fine cracks an ordinary putty knife will answer the purpose of a trowel, but in putting on big patches a plastering trowel should be used.

### QUESTIONS ON LESSON XVIII

116 What is said in a general way about painting plastered walls?

117. What else is said in this regard and the number of coats required for "*best work*"?

118. What are fire-cracks?

119. How is "*best work*" to be done and why is it called best work?

120. How should the walls be prepared for the painting?

## LESSON XIX

## PAINTING PLASTERED WALLS IN OIL—CONTINUED

121. The priming coat should be put on with a view of filling up the sponge character of plastered work as much as possible. Raw linseed oil is about all that will be necessary with just enough pigment added to it to show the progress of the painting. In cold weather a little volatile oil preferably turpentine, should be added to it in order to make it more limped and penetrating; but it is not needed in warm weather. The paint should be well rubbed. in that it may be absorbed by the walls in sufficient quantity, but one should guard against the danger of putting it on so heavy as to have it run, all surplus that is not absorbed by the walls, should be well wiped out to guard against this danger. It should then be allowed to dry to perfection, which will require 8 or 10 days more

when it should be lightly sand papered and dusted.

122. It is then ready for second coating. The color should be mixed somewhat near to the tint which it is intended to be the final color, but somewhat darker in order that the next two coats may cover well over it and to guard against *holidays* in the application of the next coat. The coat should not be too heavy with pigment and should be thinned with considerable turpentine in order that it may dry with a semi-flat—that is if the finishing coat is to be flat-*ted*; otherwise it will not matter so much and really it will be best to give it so as to have it dry with a partial gloss. The readers will remember that in the lesson on flatting (see paragraphs 93 to 97) the rule is laid down that in order to obtain a good uniform flat the ground coat for it should be glossy and that for a good gloss or enamel the ground coat should be flat—hence, the seeming contradictory advice

given here in the thinning to let that be according to the finish designed.

123. The third coat should be put on with a fair quantity of pigment in it, but not too thick either, for easy application, according as to whether the finish is to be glossy or flat will depend the manner of its thinning.: In the last named it will have to be glossy and considerable linseed oil should be used in order to produce it if on the contrary a gloss finish is desired than let it be nearly flat and thin it with mostly turpentine.

124. The 3rd coat should be stippled. The stippling brush (see fig. 13) should be carefully used over the painted surface in order to eradicate all brush marks and leave the painting uniform. It gives it a fine sanded appearance too, far superior to what the same painting would be without it.

The stippling should be done systematically. One should commence at one



corner and work straight towards the other corner lapping the strokes over each other, in order not to miss any part, then proceed to stipple another row below the first lapping that a trifle too. In that way good stippling will be done. The third coat should be just a trifle darker than the last coat.

If the room is to be decorated and the walls be divided into panels and stiles, in order to insure perfect work, these divisions should be lined out now with the chalk line and the proper finishing coats should be given of a trifle darker tone, however, than the fourth or finishing coat.

125. The fourth and what should be the last coat (the fire cracks permitting) should be mixed flat or at least of an egg shell gloss, especially if it is to be decorated. The paint should be middling thick and mixed as directed for flatting with mostly turpentine. The stippler should not be very far behind as this flat

paint sets very quickly and then it is impossible to stipple it well. If per chance the finish is to be glossy then the thinning should have a good quantity of linseed oil in it. This is very seldom done, however, as there are very few situations where it is at all admissible.

126. Now as said before, if the fire cracks behave themselves, the work will present a fine uniform appearance—but! if they happen to come through, alas! and they do sometimes; there is nothing left to do but to go over the last two coats over again in the same manner as stated before. It might be that but one coat would be necessary yet as it would not be possible to give a good flat coat over another flat coat it will be necessary to give it an undercoat of gloss.

### QUESTIONS ON LESSON XIX

121. How should the priming be mixed and applied?

122. How should the second coat be mixed and applied?

123. How should the third coat be mixed and applied?

124. What is the effect of stippling and how is it done?

125. How is the fourth coat mixed and put on?

126. If the fire cracks show through on the fourth coat, what will have to be done?

## LESSON XX

### PAINTING PLASTERED WORK IN OIL—CONTINUED

127. It was seen in the former two lessons that fire cracks were the cause which required an extra coat of paint and sometimes three in order to effectually hide them. Now if they can be prevented from showing by the application of sizing which will at the same time stop the suction of the paint into the wall, the number of coats

and cost of doing the work will be materially reduced.

128. A fairly strong sizing of glue will do this. It will effectually stop the fire cracks from showing and also stop the plaster suction of the oil from the paint, so that the work can be done in two coats plus the sizing coat itself.

129. The first coat over the glue sizing should be given rather heavy in order that it may cover fairly well and look nearly solid. It should be nearly all oil in order to carry a gloss and should be nearly of the same color as the next or finishing coat. For good work it should be stippled.

130. The second or finishing coat should be put on as described in paragraph 135. It stands to reason that while the results produced will be nearly if not quite as good as those obtained in the method described as "*best way*" that such painting cannot be more permanent than the glue

which holds it up and must be subject to viscissitudes which will not affect the first—such as moisture, for instance.

131. There is, however, a better way—a sort of a compromise between the best and that named above. It has the same advantage as the last in protecting the job against fire cracks and but that it requires an extra coat of paint, i. e., three coats instead of two would be used more than it is. Under this system a coat of oil paint is given directly over the plaster.

A coat of glue size is given over this paint coat when dry and the next two coats are applied as stated before.

132. The last is much the best of the two systems mentioned in this lesson. But it only saves one coat of paint over the *best way* and upon walls which are good and upon which one can be reasonably certain that the four coats will effectually hide the fire cracks the saving will not be very great, as the time required to put on

the sizing coat will nearly make up for the paint coat saved. It is only where there is great danger that the fire cracks will show through the fourth coat that there would be a real saving, as then it would cut out the two extra coats which it would be necessary to give the walls.

### QUESTIONS ON LESSON XX

127. What other methods can be used to produce good looking painted surfaces on plaster?

128. What is said about the sizing of walls?

129. How should the first coat be put on?

130. What is said about the mixing and putting on of the second coat?

131. Can you name another method of painting plastered walls?

132. Which of these two systems is to be recommended above the other?

## LESSON XXI

## FLOOR PAINTING, VARNISHING AND WAXING

133. Floors are an important part of the interior finishing in buildings these times. Under the old system of nailing down carpets all over a room most anything was good enough in the estimation of many builders; but now with rugs extending only over the center portion of the floors, it becomes necessary to use better lumber and that the lumber itself should receive some kind of treatment that will improve its looks and shield it from injuries likely to mar its beauty.

134. There are a number of ways of finishing floors according as to the kind somewhat or to what purpose they shall be used :— for. They may be simply oiled or given a wax finish, or again, varnished in various ways; they may be painted or grained and varnished. These several ways of finishing floors will form the subject matter of this lesson.

135. Floors may be oiled to good advantage. It makes a rather tame looking finish but such is desirable as in kitchens, etc., or in large public institutions, where a glare would be out of place, as in hospitals, etc. Linseed oil (raw) to which a small quantity of turpentine has been added to increase its fluidity should be used. All surplus oil that is not absorbed by the wood should be carefully wiped off with soft absorbing rags for if any of this surplus oil should dry upon the top of the boards it will form a skin which will scratch through and in time will be eye sores instead of a benefit in beautifying the room as intended.

136. An excellent manner in applying the oil is to mix raw linseed oil with ordinary kerosene, two-thirds of the former to one-third of the latter. This mixture is very penetrating, can be easily wiped off when the lumber is filled and gives good results. All oiled floors should be gone over



when they become dinged, with a soft rag dipped in raw linseed oil and kerosene, this will clean up ordinary spotting and dirt and restore it to its original condition. Care should be used to use no more than will wipe up clean from the surface of the boards.

137. Floors are waxed in many various ways also. The better way is to give the floor one coat of linseed oil as a priming. It will prevent the absorption of moisture and the consequent warping of the boards. Then some of the ready prepared wax, finishes may be applied over it after it has become thoroughly hardened. After the wax has been applied as by the directions given upon the packages holding it, it should be polished with the weighted floor brush, see fig. 22. It will require another coat of the wax finish for good work on new wax work. This should be polished too, in the same manner as stated above. Waxed floors can be kept in good condition indefin-

itely with an occasional renewing of a coat of wax and sometimes even without that—the weekly use of the weighted brush alone will usually restore its even subdued polish.

138. The French wax floor polish is done very much in the same way. It may



FIG. 22.

be applied over the bare wood, but for the reason stated it is best to prime it first. It is a water solution of wax, either white or colored up with pigment. The solution is made by boiling with water to which an alkali has been added.

## QUESTIONS ON LESSON XXI

- 133. What is said regarding floors?
- 134. In how many different ways may floors be finished?
- 135. How should floors be oiled?
- 136. In what other way may floors be oiled?
- 137. How are floors to be waxed?
- 138. How is French wax polish made and applied?

## LESSON XXII

## FINISHING FLOORS—CONTINUED

139. The new floors should have had a good surface scraping by the carpenters before being turned over to the painters. When this has not been the case, he should so have it arranged that he shall claim some extra pay for doing this work, which does not properly belong to him. The job should be very carefully dusted and the floor should have a coat of hardwood filler

given it, thinned as directed on the can and wiped off with tow or excelsior after which a good dusting and cleaning cloth wiping given it. It should stand 12 hours when a coat of shellac varnish should be given it, if the wood is finished light, the white shellac will be the best, if dark the orange being stronger and the color unobjectionable, that should be used—then it will be ready for the varnishing when dry and after receiving a slight No. 0 or  $\frac{1}{2}$  sand paper and dusting off again.

140. It is useless to expect good results from varnished floors when a poor quality of varnish is used. Use only that made for this specific purpose by some reputable varnish house. Apply the coats full, but not sufficiently so as to dry wrinkled. It will usually make a better job to slightly rub over the first coat of varnish when dry with some hair cloth in order to dull it and then apply another coat of varnish over it as two coats are not too much

to stand the constant walking over it for any length of time without wearing through.

141. It will be better to apply a coat of hard wax over it and to polish it. It does not mar as readily as the French wax polish will when coated over wood that has not been varnished, and it protects the varnish coat in so much that where it has worn through another coat of the hard wax can be given which will restore the parts worn to a uniform finish as good as the rest of the room. This is an impossibility with touched up varnishing. It is sure to show all the touched up spots and when an all over coat is given they will show through as blemishes just the same.

142. There are some old floors in very bad condition in many old houses, some with wide cracks and splinters which have been pulled off leaving them uneven and in a dilapidated condition. In such a case these cracks, holes and other inequalities

must be filled up. There are upon the market a number of excellent crack fillers—many of them have an accompanying liquid the composition of which the manufacturers naturally keep to themselves. There is an excellent one, however, which comes in a dry powder and is simply mixed with cold water and applied with a putty or scraping knife. It dries hard in ten to twelve hours and never shrinks from the cracks, leaving them filled solidly. It is so good that our rule of not giving names to patented articles usually is laid aside in this instance. It is called the Anderson's Water Putty for filling cracks. It is shown in fig. 22, parts not filled and those that have been.

143. Frequently floors are painted all over and left in their painted state. When the paint selected is of the proper mixture this kind of finish will last a long time with an occasional renewal coat. The paint should dry very hard and should

stand rubbing over without being easily marred. The oxides of lead form an ideal base for such paint. It was seen that red lead (the bioxide of lead) dries with a metallic hardness; so will the monoxide of that metal "litharge." Either used as the base of the floor paint can have its color changed by the addition of white lead and coloring pigments and made up into a number of good neutral tints of gray, drabs and buffs. The base of course, should predominate in the mixture. Two but better, three coats of such paint will make a floor upon which the horn pipe may be danced without much danger of rubbing through to the wood every time it is indulged in.

144. The ground which is painted upon the floor preparatory to the graining may be such as the grainer may think is best for his purpose. Two and better, three coats of the ground coat paint should be applied, being careful not to have it too thick nor too oily—it should be rather flat

all the way through after the priming, as then there will be less likelihood of the hard varnish put over the graining cracking. It may be grained in oil or water colors in the manner described in Vol IV of the Red series.

145. The graining if done in oil should be allowed to dry very hard before it is varnished. The varnish itself should be a good one. A good hard floor varnish will be the best sort to use as it must not only act as a protection to the graining, but it must be able to stand the wear and grind of the walking done upon the floor at the same time. Two coats should be applied over the graining, full but not "flowing."

### QUESTIONS ON LESSON XXII

139. How are the floors prepared for varnishing?

140. How is the varnishing applied?

141. How should hard wax be used on varnished surfaces?



142. How should old floors be prepared for painting?

143. How should they be painted and ground for graining?

144. How should they be grained?

145. How should they be varnished over the graining?

## LESSON XXIII

### INTERIOR PAINTING OF PLASTERED WALL IN WATER COLORS, PREPARING COLORS AND GROUND

146. Heretofore the various descriptions given of interior painting referred exclusively to oil work. The designing of stencils and pounces intended for decorative work can be used it is true in either oil or water color work, but the details given for the application, etc., of paint in oil will not be of any value to guide one in water color work.

In all the former lessons the medium through which the colors are applied had

an inherent power of its own to bind the colors on to the surfaces over which they were applied. Not so in water colors; as we have seen water has no binding properties so that must be furnished it by the addition of soluble substances which possess the proper binding quality.

147. Gum-Arabic among the vegetable substances and glues among those of animal extraction have had their action already explained in paragraphs 38 to 40, so the reader is referred to them for the proper details as to their characteristics. The former is very seldom used on account of its expense and the greater trouble in preparing the colors for use with it. The glues then may be said to form the backbone of water color painting.

148. Water does not make colored pigments transparent as linseed and other oils do, and the same is true of the white earth pigments which in oil are rendered so transparent as to unfit them for use

alone in that medium. These very pigments form the base of all light tints in water colors and they are frequently used in their self white colors as well. Therefore Whiting, China, Clay, White Silicates, Gypsum which are useless in oil used *alone*, in water colored work are indispensable especially the first named. When mixed in water colors all the above cover solidly in one coat over almost any surface where the coating can be applied evenly all over alike.

149. All pigments used in the mixing of water colored tints should be first well soaked up in water to a stiff paste, free from lumps. The glue should have been soaked up in cold water for several hours before it is dissolved in warm water. Then in the condition mentioned, it will have swelled up to many times its former bulk and weight as good glue will absorb eighteen times its weight of water. Then it will melt rapidly by the addition of a little boiling water. One ounce of good glue will

usually bind one and one-half pounds of whiting and even more if there is to be only one coat work made of the distemper work. Should there be a considerable addition of other colored matter to whiting base, this should be computed and a proper allowance of glue should be added to the amount required by the whiting. The whiting and coloring pigments having been soaked should now be thinned a trifle more in order that they may be mixed together into the desired tints. The melted glue should be added to the whiting base first, and the colors added into that gradually in order not to overdo it and make a tint darker than is required. The proper way is to *test the tints*. All water color tints appear much darker when wet than they dry out so that usually the adding of too much coloring is not so likely to happen as in the mixing of tints in oil, but the reverse in that the tints will usually be too light toned. The proper way to test is to

apply a little of the color upon a piece of paper and to let it dry out in the sun or on a stone, when the drying is complete it will indicate the colors that are lacking to complete the tint wanted. It takes some little time for one to become a good and quick tint maker in water colors, and experience is the only way open for one to become an adept at color mixing.

150. Water colors as a rule are easier to apply after they have cooled and become jellied. When they have been highly sized as it is sometimes necessary that they should be where it is desirable to rub over them with other colors in decoration, the size would jell too hard so much so that the brush could not be dipped into the color; under such circumstances the color should be warmed occasionally sufficiently to prevent its jellying.

### QUESTIONS ON LESSON XXIII

146. What is said regarding water color painting in general?

147. What are the principal substances used in water color painting?

148. What is said of the coloring pigments and of the earth whites?

149. How are pigments and glue mixed for the preparing of tints?

150. Are water colors always used cooled before their application?

## LESSON XXIV

PAINTING PLASTERED WALLS IN WATER COLORS,  
CALCIMINING OR DISTEMPER WORK—  
CONTINUED

151. New plastered walls which have been finished with the modern hard plaster and a skim coat of plaster-paris usually presents no difficulty to the application of the water colors so that one coat over them will give a good solid covering. But unlike in oil painting where a number of coats are required in producing this effect, it is very much better for the durability of the work that it be done only in one coat.

The reason for this is that the thinner it is the less the likelihood of its cracking and scaling. Another very good reason is that it is sometimes very difficult to give another coat upon another, especially if it has not been highly sized, which usually means a still greater danger of the work scaling by the application of another coat. The principal idea to keep in mind then in painting walls in water colors let it be called "calcimining, distemper, fresco or water color, which after all are nearly all interchangeable names for the same thing is to so prepare them that one may be reasonably sure that they may be finished in *one coat work* in all but the decoration proper.

152. In order to insure that one coat of water color paint will cover well, all suction in the plaster *must be stopped*. There are several methods of doing this; 1st. The old way, which was to give one coat of glue sizing to the walls. It answers fairly

well, but it increases the danger of flaking off especially when it is given too strong or from a size made from poor glue.

The *so-called surfacers* which are used so extensively now in sizing plastered walls are very much better for the purpose than any glue size can be. These surfaces are usually some very cheap varnish. Some are little better than gloss oil. Gloss oil is rosin dissolved in benzine to which a little China wood oil is added to hold it together. Some have not even that mixed with it. Such as the latter are of but little value and should never be used. It is infinitely better to use a good surfacer for there are several very good ones made by reputable varnish firms or, else use some cheap varnish or so-called hard oil or cheap coach or furniture varnish; as one gallon will usually go over an ordinary room or a long ways towards it, the cost is nothing in comparison to the danger of having the job ruined.



153. After the coat of sizing has dried, if the painting is to be plain, it is ready for its application, but if the room is to be decorated and certain parts of ceilings, frieze, walls or dadoes are to be finished in various tints, the spaces which each is to occupy should now be laid out.

The operator should carefully measure out all these spaces according to his working plan or if he has none according to what he has decided in his mind each should occupy. When all his distances have been measured and *marked* with a piece of chalk or charcoal, he should use a chalk line one end of which being fastened to an awl whose end has been made sharp by filing; this should be inserted in the plaster, the line chalked and walking back to the end of the line it should be snapped. All separations of colors and tints should be thus lined out, then there will be no trouble in putting each tint where it belongs and when completed the painting proper may be commenced.

154. So far the preliminaries or the proper way of getting ready for the painting have taken up the preceding paragraphs in this lesson. As these are of more real importance than the mere application of the paint itself it was proper that it should receive the attention that it did, for when the preparations have been properly made the rest of it is mere play in comparison.

If the coloring is to be plain one may take a 6, 7 or 8-inch calcimine brush and with the galvanized pail containing the color, it is an easy matter even for a novice to dip the brush in it and to remove the surplus color by a few strokes of the brush over the wiping wire on the top of the pail or by slapping the brush on the sides, if it has n't had one soldered on across its top. It is not necessary that the colors should be carefully laid out as in oil work, but one should be careful to have it evenly distributed and not to miss any part of the wall

nor to leave any portion of it uncovered. If the color is in a thin jelly consistency the brush will slide beautifully over the sized walls and unless it has been thinned too much it will make a solid cover.

### QUESTIONS ON LESSON XXIV

151. Why should one coat only be applied to plastered walls?

152. How should the walls be prepared for water color painting?

153. How must the walls be laid out, if the painting is to be done in various tints?

154. How should water colors be applied?

### LESSON XXV

#### REPAINTING OLD WALLS IN WATER COLORS

155. The former lesson considered the preparation and painting of new work only. This lesson treats the painting over of surfaces that have been painted before.

The first operation will necessarily be

that of taking off what had been applied previously, as it is the only safe way, by means of which a good surface can be assured upon which to do the work over.

156. The only way to do this is to wash off the old coatings. It is not a very attractive piece of work but it must be done, and when one gets at it in the right way it is not near as dreadful as it will be if gone at in the wrong way.

The person doing the washing should have a pail with warm water in it, he should use a calcimine brush to dip into the water and to apply it to the walls. He should go over the whole surface of the ceiling first, in much the same way as he would in applying a coat of calcimine. This warm water will soak up the water color coats and after this wetting the cleaner should use a good large sponge kept middling damp and with it remove the water color. Every few minutes he should squeeze it out into another empty pail, remoisten the

sponge in the clean water pail and proceed as before until all the color has been washed off. Then continue as directed upon the side walls until the job has been completed.

157. This will leave the walls in exactly the same condition that they were in before the first painting was done upon them, so that all that was said in lesson XXVI as to the painting of new work is applicable to it. Should the sizing have been done with varnish or the so-called surfaces, usually it will not be necessary to repeat it, although it would be the better for having another coat of it applied in order to make assurance doubly sure. This second coat will have a uniform gloss which the first one did not have and will indicate that it is filled in all subsequent applications of color upon the walls and it will not need to be repeated.

158. In the old-time houses, many of the walls, especially those made of soft

plastering, become very absorbent and are known to the trade as hot walls. Previous to the use of wall surfacers or varnish used to stop wall suction now, these hot walls used to be a holy terror to calciminers and all kinds of remedies were in vogue to be used with the water color paint in order to prevent the color from setting so fast and disappearing so quickly. The best of these were glycerine, soft soap and molasses which, when mixed with the calcimine, had a tendency to keep them from drying in so rapidly and helped the spreading of the paint and the sliding of the brush. These walls when they have been once cleaned from former coats should be filled with varnish sizing, then there will be no trouble in doing the work in the same manner as that related before.

159. Formerly, especially in country districts, painters used to be bothered considerably when called upon to do calcimining over walls which had been white-

washed many times. There is much less of it now, but the chances are that the student may come across such here and there, where only a few coats of lime have been applied and it is hard and fast, a good soaking of strong vinegar will usually suffice to neutralize the lime so that a coating of calcimine may be given without much danger of its coming off, but it should be but weakly sized, just enough to keep the color from rubbing off when touched.

When the lime is coming off in flakes there remain some parts which have a tight hold upon the walls. A single coat of glue or flour paste usually pulls them off so that after the drying they crackle and are loosed so they can be scraped off. It is anything but a pleasant job to remove such old relics of bygone days, and the present generation may be thankful that they have so little of it to come their way.

## QUESTIONS ON LESSON XXV

155. What is the first operation to be done in order to prepare old walls for repainting in water colors?

156. How is the washing off of the water paint coats to be done?

157. What is said about resizing?

158. What are "Hot walls" and how can water color painting be done over them?

159. How should whitewashed walls be treated?

## LESSON XXVI

## DECORATING IN OIL OR WATER COLORS

160. It is not intended to go very deeply into the details of decoration excepting as that word may be applied to the easier and more ordinary sorts of it. It will form the subject matter of another volume of the red series. Under that head ought to be included a fuller detail of sten-



ceiling, gilding, the laws governing the harmony of colors, etc., each of which will easily fill up a volume of this size and really it is expected that each of those subjects will be taken up separately. It must be seen at once that but little can be said and that suitable mainly to the application of stencils and the lining out of the spaces with such execution of free hand work from pounces as do not present too much difficulty in the performance.

161. The laying out of the work upon ceiling, frieze, side walls and dado, if there is be one, ought to be done all at the same time. If one has a design of it drawn out upon paper to scale, it will greatly facilitate the work and prevent possibly many mistakes.

162. The proper way is to make a plat in pencil; after having measured out the exact side of ceiling and side walls, the measurement should be reduced to 10th or 12th or 20th. For the sake and facility of

quick calculating the reduction to 1-10th will be found the easiest. If the room is 12 ft. x 16 ft., say, make a plat of the ceiling first, measuring 1 2-10th feet at two ends and the sides 1 foot 6-10th. Proceed to make a sketch of all the walls separately if they are to be decorated. If there is to be a frieze only, and that of its ground color different from that of the rest of the wall, it will not be necessary to plat it as a line, say, 15 inches or whatever may be the space that the frieze will occupy at the top of the wall, the distance can be measured easily below the ceiling and the chalk line snapped true without the use of a plat.

163. If a dado space is to be painted also of a different color from the side walls proper, the distance from the floor to the top of the line it is to commence at can also be measured all around the room without any need of platting.

164. Having drawn out a true design of the space occupied by the ceiling, proceed

to line upon the paper the exact space that each division which is to be separately covered is to occupy. For instance, suppose that the stiling around the panel is to occupy 18 inches, measure 1 foot 5-10 if in decimals, or 1 ft. 6 in. if in 12th. If a band border is to occupy a space between the stile and panel make another line to scale for the size it is to occupy; if the space the border will occupy is to be painted of another color from that of the panel, this should be indicated.

165. Upon these working draft sheets the actual designs of the stencils, centers, etc., need not be drawn out, as they are not intended as samples of the work to be done but for the use of the workmen in laying out the ceilings and walls for decorating. They should be used previous to the application of the last coat of coloring in oil work and the same is good also for water color work and it may be said to be preparatory to the decorating proper.

166. It will be an easy matter for the operator to get his exact measurements from these working sketches and to transfer them to the walls. He should use the chalk line to make every line distinct and true and proceed until the whole of the divisions on the sketch have been transferred to the walls, when they will be ready for the final painting and stippling if in oil or for the water color coat if in distemper.

### QUESTIONS ON LESSON XXVI

160. What is said about the scope of decoration as treated in this manual?

161. Why should a working sketch be made previous to applying the last coat?

162. How should the sketching be drawn?

163. How are dado lines established?

164. How are the ceiling spaces to be drawn out upon the sketch?

165. Is it necessary to make a sketch of stencils, etc., on the working draft?

166. How are the measurements duplicated on the walls?

## LESSON XXVII

### LINING AND STENCILLING

167. Some very pretty effects are obtained by simply the harmonious contrast of the colors used in the tinting of the walls plus simple lines at the separation of the tints. The pleasing effects of the lining can be increased by the making of lines of different widths, say a  $\frac{3}{4}$ -inch stripe with one  $\frac{1}{4}$  or  $\frac{3}{8}$  of an inch near it. This effect can be still further increased by making up some simple line designs at the corners or the same into breaks between the corners and into center pieces.

168. The lining in oil or water colors is done by means of different widthed flat bristle artists' brushes known in many sections as fitches and the use of a flat fresco beveled edged straight edge from 3 to 4 feet long. This straight edge is held by

the left hand at the proper distance from the line chalked out to produce the right thickness wanted for the line itself, and the decorator following the line made by the chalk line with his brushes dipped in color finishes the line by brushing up against the beveled edged side, and when he has finished the line to the length of the straight edge he moves it along for another length of it and so on until his lines are completed.

169. It is possible to make many various width of lines in that way with one brush and to make them more evenly than if the same is done at one single stroke; at least, it is the better way for beginners to attempt this kind of work. They will gradually fall into the habit of lining at one stroke by practice.

170. The statement that a combination of lines and curves of lines of equal thickness when made up into some design looked good, is true. But, this requires consid-

erable more skill than stencilling does and therefore should not be attempted at first by the novice; plain, straight lines of as near the same thickness all the way through will be hard enough for him to master, without trying to do the more difficult.

171. The manner of preparing the designs, cutting and shellacking the stencils was given in paragraphs 72 to 77 and the student should refer to them again to freshen up his memory before undertaking the cutting. If he so desires, he can buy suitable combinations of stencils already cut of almost any size and for almost any purpose. The ready made stencils will be required to be shellacked with shellac varnish as related in Lesson XII, especially for water color work.

172. The stencil should be held in place by thumb tacks; these will not damage the plastering in the least and will hold it to its proper place without the use of the hands

which will be free to use the stencil brush in applying the colors and the left hand will hold down the parts of the stencil which may bulge, keeping it down close to the wall so that a much cleaner job of stencilling can be done than would be possible if the decorator tried to hold the stencil to its place by the hand alone.

173. Colors in oil should be mixed rather thick, much thicker than is required for an application on the walls with a wall brush. The stencil brush is short and stubby, the color should be well worked up into it by rubbing over some stencil paper in order that it may not be too thick when it first strikes the stencil. It should be pecked on, especially at first, until the student understands how to handle it well, when he may depart somewhat from the pecking of it on. This is the only sure and safe way for the beginner, and if he confines himself to it the chances that the edges of his stencil will blur will become minimized.



174. For stenciling in water colors the colors should also be mixed stouter than can be used in coloring the walls but not quite so thick usually as is required for oil work. The color should be pecked on, too, but with practice the operator knows how to take advantage of his brush and by the right twirl of it color up quite a space before pecking again. The right way to use the brush comes by intuition almost and cannot be described so as to convey the idea of its proper handling. It never comes to beginners except by practice. As the pecking method of putting on the color always enables the operator to do a good job no one should be afraid to tackle it and he can use it till the other way is caught on to by practice.

### QUESTIONS ON LESSON XXVII

167. What is said regarding lining up of ceilings and walls?

168. How is the lining done?

169. Is it necessary that the lining brushes be as wide as the line made?

170. What advice to novices is here given?

171. What is said concerning the making or the buying of stencils?

172. How are stencils held in place while painted over?

173. How should colors be mixed for stencilling in oil?

174. How should the colors be mixed for stencilling in water colors?

## LESSON XXVIII

### POUNCES AND PAINTING POUNCED WORK

175. The preparing of pounces was also made the subject matter of a special lesson so the reader is referred to paragraphs 78 to 84 in order to know how they are made and prepared for use.

176. The principal object obtained by the use of pounces is to produce duplica-

tions of the same design any number of times desired. A uniform repetition is thus had in a manner similar to that of the stencils with the difference, however, that the pounced work will be continuous, no ties showing in it; in other words, it is free hand decoration, having to be painted by hand entirely.

177. Stencils are mainly used in duplicating conventionalized forms and are at their best in this use of them; although excellent effects may also be obtained from them in duplicating natural forms, yet as no shading can be used with them as in the painting of the same design reproduced from pounces there is a great difference in the finished looks that may be given to pounced work. It takes longer to do pounced work and more skill in executing the more difficult parts used in high grade work, but there is a great deal of simple decoration that is possible to beginners. They should commence with the easier de-

signs and gradually work themselves up to the higher planes where, should he live to be a very old man, he can be learning something every day of his life that he did not know before.

178. The design which has been pricked on the pounce is reproduced in all its outlines upon the walls and ceiling. The design itself may be almost anything, from combinations of lines in one color to floral or figure designs requiring the use of a number of colors in the producing.

Some of the designs are outlined by a line of color all around the forms represented, the various colors being used being seen between these lines. In such a case the coloring should be painted in between the pounced lines intended for it and all the various colors used should be painted where they belong, then afterward they should be outlined with an evenly stroked line. It is sometimes very helpful to use a mahl stick to rest the wrist of the hand

upon. By the use of it the lining can be done much more evenly and quicker than is possible off hand.

179. Pictorial work will require some special skill on the part of the decorator in both drawing and shading. Simple objects should be first practiced with, gradually taking up something more difficult in its execution. This is usually done in free hand without the use of pounces. The design desired being copied directly upon the walls with a charcoal crayon in order that the outlines may be corrected when necessary. The charcoal marks being easily wiped out are replaced by new ones until the design wanted is reproduced to the satisfaction of the operator. It is then painted in suitable colors with or without outlining colors.

It is impossible in the short space allowed to such a vast subject as pictorial painting to give even the more elementary principles of drawing and the student must procure either some good book making free

hand drawing its specialty or, what is better, ~~take some lessons in a good school~~ to give him at least a start in its study.

### QUESTIONS ON LESSON XXVIII

- 175. What is said about pounce work?
- 176. What is the object of pouncing?
- 177. Does it represent' object in the same manner as stencilling?
- 178. How is the work executed?
- 179. How is pictorial work done and how should it be studied?

### APPENDIX

180. For the information of many and because of misunderstandings, it is again stated at the end of this manual that: Cal-cimining, water color work, distempering and fresco in water colors are interchangeable words and all that can be said regarding water color work will apply with as much force to all the synonyms.

## INDEX

---

Adjustable walking board .....	67
Adjustable scaffolding jacks .....	69
Aluminous white earths—their uses.....	32
Appliances used in interior painting.....	65
Application of oil colors to walls .....	114
Application of oil colors to wood work.....	92
Application of water colors to walls.....	139
Barrel (lye) to receive paint pot cleanings, etc....	25
Binding material for water colors of animal pro- duction .....	44
Binding material for water colors of vegetable pro- duction .....	43
Black group of pigments used in interior painting..	37
Blue group of pigments used in interior painting..	38
Bobs (plumb)—its uses in interior painting.....	48
Bronzes—their uses in interior painting.....	47
Brown group of pigments used in interior painting.	41
Brushes—General remarks on interior painting....	50
Brushes—used on interior painting.....	52
Cheap method of painting walls in oil.....	127
Crack filler for old floors.....	136
Cretaceous white earths—their uses in interior work .....	32
Decoration—general remarks on.....	137
Designing—for stencils .....	85
Designing—for pounces .....	165
Dividers—their uses .....	48
Drafting paper—its uses .....	47

Drawers for dry colors in shop.....	24
Drawing board—its uses .....	26
Drawing designs for stencils .....	85
Drawing designs for pounces .....	165
Earth whites—general remarks on their use in water color painting .....	31, 32
Enamelling—general remarks on.....	103
Enamelling—how to prepare for it.....	104
Enamelling—the lead coats, how applied.....	104
Enamelling—the zinc and varnish coats.....	105
Fire cracks—in oil color work on plastered walls..	115
Fire cracks—how to remedy .....	116
Fixed oils—their character and uses.....	43
Flatting—general remarks on .....	96
Flatting—on wood work, preparing for it .....	95
Flatting—on wood work, applying it .....	95
Flatting—dead flat .....	97
Flatting—egg shell gloss.....	98
Flatting—walls and ceilings.....	125
Floor finishing—general remarks on.....	129
Floor finishing—filling cracks, holes, etc., on old floors .....	135
Floor finishing—how to oil them .....	130
Floor finishing—how to paint them .....	136
Floor finishing—how to wax them .....	134
Floor finishing—how to varnish them .....	135
General remarks concerning the subject matter of this manual .....	19
General remarks on appliances used in interior painting .....	65
General remarks on brushes used in interior paint- ing .....	32
General remarks on decorating used in interior painting .....	154



General remarks on enamelling used in interior painting .....	103
General remarks on flatting used in interior painting .....	96
General remarks on floor finishing used in interior painting .....	129
General remarks on material used in interior painting .....	27
General remarks on painting wood work in oil used in interior painting.....	92
General remarks on painting plastered walls in oil used in interior painting.....	114
General remarks on painting plastered walls in water colors used in interior painting.....	139
General remarks on pounces used in interior painting .....	166
General remarks on tools used in interior painting	65
General remarks on white pigments used in interior painting .....	29
Glue sizing for plastered walls in oil painting.....	127
Glues—their uses as binders in water color work..	44
Gold leaf and other metal leaves—their uses.....	47
Graining—preparing grounds for .....	94
Green group of pigments—their names.....	39
Gum Arabic—its uses as binder for water colors...	140
Gypsum—its uses in interior painting.....	33
Hot walls—what they are .....	145
Hot walls—how to cure.....	146
How to cut stencils .....	78
How to draw designs for stencils .....	79
How to draw designs for pounces .....	165
How to do lining in decorating.....	159
How to do priming in oil for wood work.....	92
How to enamel wood work .....	103
How to flat wood work .....	96

How to flat walls .....	97
How to prepare wood work for painting.....	91
How to prepare floors for oiling .....	130
How to prepare floors for waxing .....	131
How to prepare floors for varnishing .....	131
How to stipple oil paint on walls.....	122
How the walls are painted in oil .....	120
How the walls are painted in water colors .....	139
Interior decorating with stencils.....	86
Interior decorating with water colors.....	140
Isinglass—its use as binder for water colors and sizing for gold leaf.....	127
Knives—putty .....	71
Knives—scraping .....	72
Knives—stencil cutting .....	85
Ladders—Step, in interior painting.....	66
Ladders—Tressles, in interior painting.....	67
Lime white wash—how to kill.....	150
Lining in interior decoration—how done.....	154
Lye barrel for paint refuse.....	25
Material used in interior painting.....	27
Metal leaves—their uses.....	47
Metallics—their uses .....	47
Oiling floors—how done .....	130
Old floors—how to fill cracks, holes and level up..	134
Old walls—how to prepare for water color work...	145
Painting floors—how done .....	129
Painting in oil colors—general remarks on.....	92
Painting in water colors—general remarks on.....	139
Pictorial work—how to study it .....	154
Pictorial work—how to do the work .....	155
Pounces—general remarks on .....	164
Pounces—how to make them .....	165
Pounces—how to use them .....	166
Preparing walls for water color work.....	139

Ready made stencils .....	87
Ready prepared stencil paper .....	86
Red group of colors—their names .....	40
Repeats in designs—how to reproduce .....	87
Scaffolding for high work .....	66
Scaffolding for ordinary room work .....	68
Scaffolding jacks—their uses .....	68
Shellac varnish for stencil paper .....	87
Shop—best location for .....	22
Shop—best arrangement for .....	23
Silicate white earths—their use in interior paint- ing .....	33
Sizing walls with glue for oil painting .....	94
Sizing surfaces for oil painting .....	96
Sketching paper—how to make .....	165
Sketching plans—for working out decoration .....	154
Step ladders—their use in interior work .....	66
Stippling—how to do it .....	122
Stencil paper—how prepared .....	85
Stencil paper—how cut .....	86
Stoves for use in paint shops .....	24
Straight edges—their use .....	160
Surfaces for wall painting .....	96
Table for sketching—how made .....	67
Ties in stencilling—what they are .....	87
Tools used in interior painting and decorating .....	65
Triangles—their uses .....	73
T squares—their uses .....	73
Varnish in floor work .....	135
Vehicles for use in interior painting .....	43
Water color painting—general remarks upon .....	139
Water color painting—how to apply .....	141
Water color painting—making tints for .....	140
Water color painting—preparing walls for .....	141
Water color painting—pigments used in .....	28

Water putty—for filling cracks in floor.....	134
Washing off old water color work—how done.....	150
Wax—in floor work .....	134
White pigments—general remarks on .....	29
White lead—its uses in interior painting.....	29
White zinc—its uses in interior painting.....	30
White earths—their uses in interior painting.....	36
Whiting—its use in water color painting.....	32
Wood work—interior painting of .....	92
Zinc white—its use .....	30
Yellow group of pigments—their names.,.....	41

1  
2  
3  
4  
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6  
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